PULP & PAPER

MAY 1957

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Slabs-to-chips System
page 144

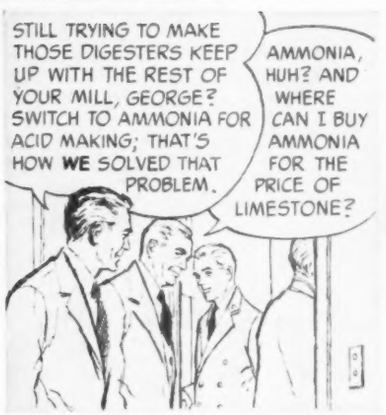
Antioch, Calif.: Those pipes help unload a pulp ship; belt carries deckered pulp for open air storage (left). See how it's done . . . story on page 48

The A. B. P.* Story

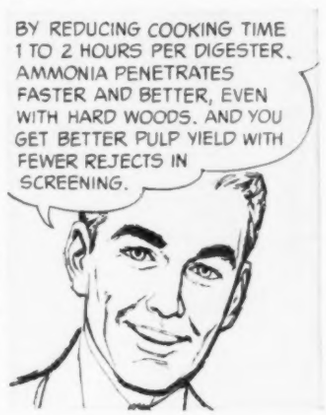
***Ammonium Bisulfite Pulping by Allied Chemical**

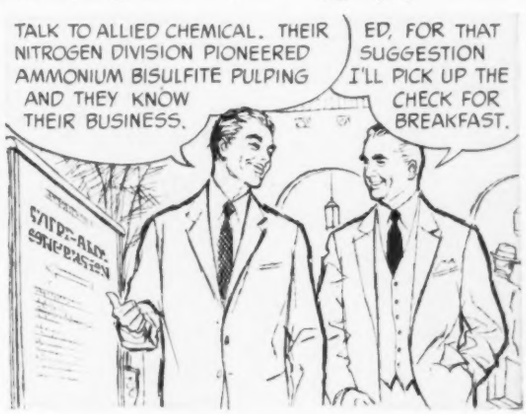
FROM A CHANCE MEETING IN A HOTEL CORRIDOR A MILL EXECUTIVE LEARNS HOW TO INCREASE PULP OUTPUT AND REDUCE MAINTENANCE.

QUITE A COINCIDENCE TO RUN INTO YOU HERE, GEORGE. HOW ARE THINGS?
BUSY, ED. HAD TO MAKE THIS TRIP EVEN THOUGH I SHOULD BE BACK AT THE MILL TRYING TO GET MORE PRODUCTION.


STILL TRYING TO MAKE THOSE DIGESTERS KEEP UP WITH THE REST OF YOUR MILL, GEORGE? SWITCH TO AMMONIA FOR ACID MAKING; THAT'S HOW **WE** SOLVED THAT PROBLEM.
AMMONIA, HUH? AND WHERE CAN I BUY AMMONIA FOR THE PRICE OF LIMESTONE?

YOU CAN'T. BUT AMMONIA STILL HAS IT ALL OVER LIMESTONE. IN THE FIRST PLACE YOU CAN STEP UP YOUR PRODUCTION MAYBE 25%. WHAT'S THAT WORTH TO YOU, GEORGE?
PLENTY-- BUT HOW?


BY REDUCING COOKING TIME 1 TO 2 HOURS PER DIGESTER, AMMONIA PENETRATES FASTER AND BETTER, EVEN WITH HARD WOODS. AND YOU GET BETTER PULP YIELD WITH FEWER REJECTS IN SCREENING.


TALK TO ALLIED CHEMICAL. THEIR NITROGEN DIVISION PIONEERED AMMONIUM BISULFITE PULPING AND THEY KNOW THEIR BUSINESS.
ED, FOR THAT SUGGESTION I'LL PICK UP THE CHECK FOR BREAKFAST.

increase pulp production with Allied Ammonia

There must be – and there are – good reasons why many sulfite pulping mills in the U. S. and Canada are now using ammonia for acid making. These mills achieved up to 25% greater production and cut maintenance way down by switching from a calcium base to ammonia. Finally, change-over is simple and inexpensive. Why not get the whole story from an Allied representative?

Dept. AA 9-25-2

Allied Chemical — NITROGEN DIVISION

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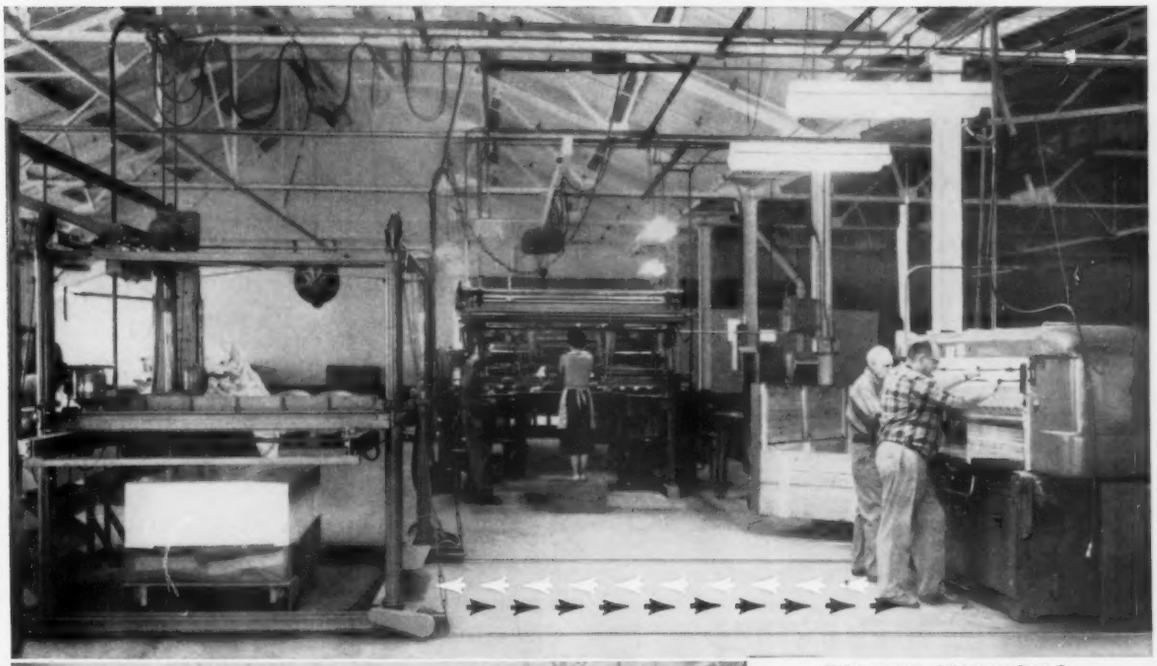
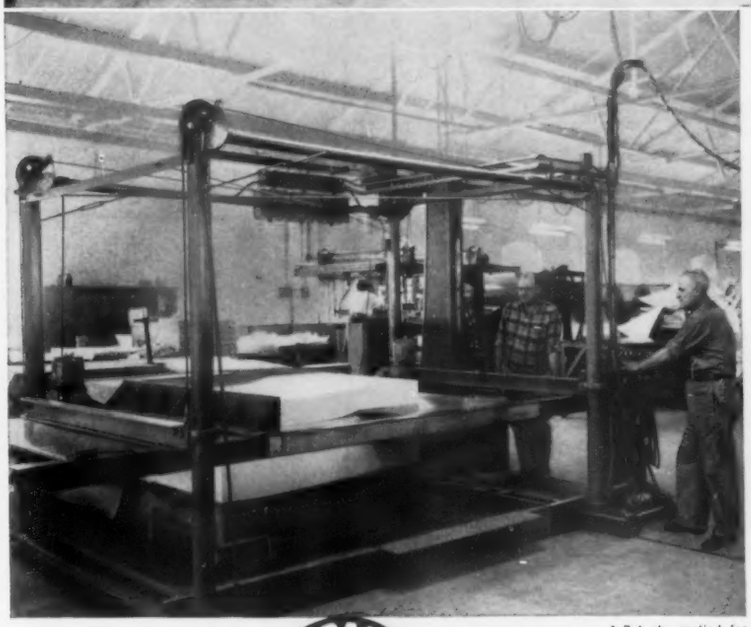


Photos courtesy of Kalamazoo Paper Co.



Mechanize Your Finishing Room with a Rice Barton Precision Sheet Piler*!

Developed by actual mill experience, the Rice Barton Precision Sheet Piler* gives you perfectly piled skids, doubles trimming and piling production without additional personnel, and eliminates the usual back-breaking effort.

Model 80 (shown) used in conjunction with an 85" trimmer piles a maximum sheet size of 79" x 55" to a height of 82" from the floor. Your Rice Barton representative can give you full details, or write direct to Rice Barton.

* Patents applied for.

RICE BARTON

RICE BARTON CORPORATION

Worcester, Massachusetts

Paper Machine Builders Since 1837

West Coast Distributor: **Ray Smythe . . 511 Park Building • Portland, Oregon**

OUT

Before it can damage costly equipment and hurt product quality

Successor to the space-consuming riffler,

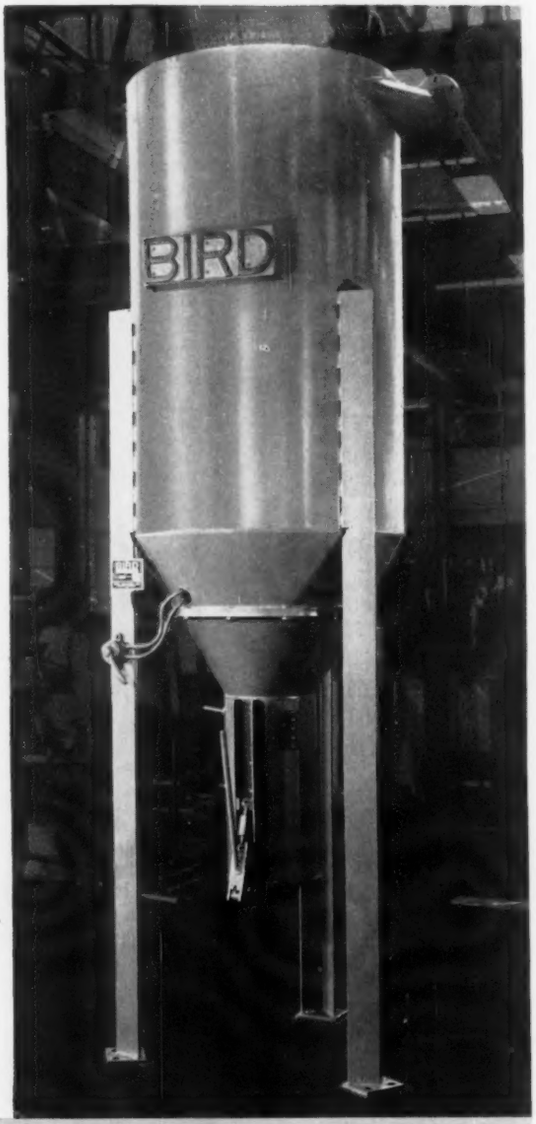
The BIRD CENTRIFFLER

is a simple, compact unit that efficiently removes dirt and junk from stock as it leaves the pulpers.

The Centriffler has no moving parts, handles stock at about 1½% consistency and delivers up to 1500 gallons of cleaned stock per minute.

Don't overlook this chance to "get" dirt the easy, inexpensive way. Write for recommendations, layouts and estimates.

Bird Centrifflers take stock delivered by a low head pump or by gravity feed. They are also available for high pressure (50 lb.) stock discharge so that stock can be delivered to regular drop-in-pressure dirt removers without pumping. Dirt may be removed by operating a hand lever or by an automatic dumping device.



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REGIONAL OFFICES: EVANSTON, ILLINOIS
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Canadian Manufacturers of Bird Machinery
CANADIAN INGERSOLL-RAND COMPANY, Limited, Montreal

PULP & PAPER

May 1957

VOLUME 31
NUMBER 5

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About taxes and government spending; a proposal to investigate newspapers

CIRCULATION DEPT., 500 Howard St., San Francisco 5, Calif. C. C. Baake, Circ. Mgr. Send subscription orders and changes of address to PULP & PAPER, above address. Include both old and new addresses.

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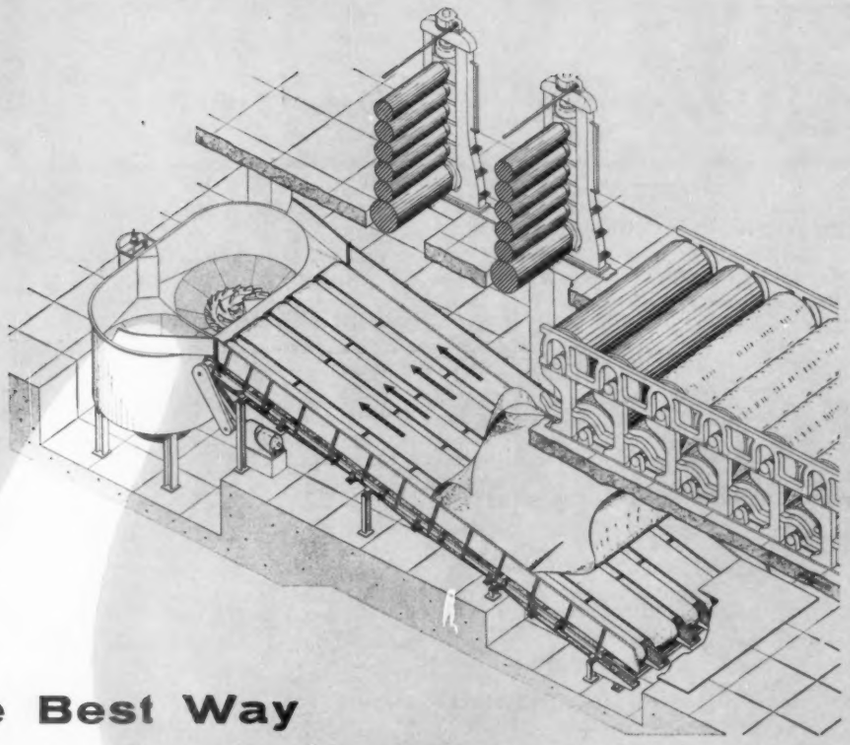
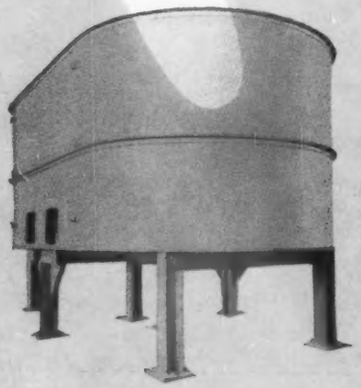


The Best Way
to battle broke



Install a Duopulper* broke slusher—preferably under your dry end dryers and first calender. It is built low and requires little head room. It can, of course, be installed elsewhere.

The ideal arrangement is to install it as shown in the above diagram under the dry end of the machine so the sheet can "ribbon" directly into it at full sheet width.

Duopulpers have oblong tubs with regular Hydrapulper® rotors, one at each end—and take broke with less confusion and slush it faster than any other mechanism ever developed.

Already several in use and many more on order.

If mill space conditions permit, the application of Black-Clawson broke conveyors makes the Duopulper ideal for automatic handling of broke under the dryers.

Sizes to conform to width of machine to be served. Get details and specifications. Contact the Shartle Division, Middletown, Ohio. *Trade-mark

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The Editor
PULP & PAPER
1791 Howard Street
Chicago 26, Illinois

THE EDITOR READS HIS MAIL

Consumer of Woodpulp Endorses Producers' Views

—Hamilton, O.

Editor: The presentation of an excellent monograph by L. K. Larson, manager of sales of the Pulp Division, Weyerhaeuser Timber Co., is of interest to the entire pulp and paper industry (see pages 42, 43, April issue, PULP & PAPER).

Mr. Larson is an authority concerning the status of the woodpulp market, fully able to define the complex components of the pulp and paper economy, to which he and his company have always provided constructive direction. In this case, however, we are given not only a view of the economics of the industry but a taste of logic, ethics, rational philosophy and good writing as well.

BILL BECKETT

As a consumer of market woodpulp, I wish particularly to express appreciation for Mr. Larson's placement of appropriate emphasis on the importance of our segment of the industry which is, as he has stated, a major customer of the market woodpulp producers. In addition he has, with telling clarity and conviction, made plain the vital importance of market pulp to every other branch of the pulp and paper industry.

The counseling, the reasonable concepts, and the excellent style of this fine essay commend it for careful reading by members of our industry. We should all acknowledge our gratitude to the author for a worthwhile service to the cause of prudence and propriety in the conduct of our business.

WILLIAM BECKETT
Exec. Vice Pres.,
The Beckett Paper Co.
(Past President,
Assn. of Pulp Consumers)

Recalls Mexico Visit

—Oakland, Calif.

Editor: Your article on the Chihuahua mill in Mexico was particularly interesting to me since I visited the mill when it was still operated by Sina Viscosa, and before it was taken over by Kimberly-Clark.

Every one of your issues that I have read are just as interesting.

FRED SCHORKEN
Pulp and Paper Tech. Div.,
Dorr-Oliver Inc.

New NAM Chief Has Two Ties with This Industry

—Portland, Ore.

Editor: In a recent issue of PULP & PAPER, there is a reference to the new president of the National Association of Manufacturers, Mr. Ernest G. Swigert, president of Hyster Co. No mention is made of the fact that Mr. Swigert is vice president and a director of Electric Steel Foundry Co.

For the information of our many good friends and customers in the pulp and paper industry, I would like to mention that Ernie's father was founder of Electric Steel Foundry Co. back in 1913. At that time, one of our biggest and best customers was the logging industry in the Northwest, as is still the case. However, when the tractors started replacing the donkey engines in the woods, the foundry's interest turned to alloy castings for tractor logging; and it was at that time, in the late 1920's, that the company now known as Hyster Co. was organized to build logging winch attachments for tractors, with the Swigert family's interest predominant in both companies. It was not until the early 1930's that the foundry became known in the pulp and paper industry through the introduction of stainless steel.

Feeling that Electric Steel Foundry Co. should allowed to bask in its share of the glory connected with Ernie's big job and service to our country, I thought the above might be interesting to your readers.

J. M. WILCOX,
Electric Steel Foundry Co.

"Cover to Cover"

—Ketchigan, Alaska

Editor: PULP & PAPER is the only pulp and paper trade magazine I read from cover to cover.

ARTHUR DAMMAN
Instrument Engineer,
Ketchikan Pulp Co.

World Business on Domestic Terms. It's easy to sell important overseas markets for pulp, paper, paperboard and newsprint when you sell through Central National Corporation—because your sales to CNC are domestic sales, regardless of final destination. With CNC service, your products are sold to reliable overseas buyers whose requirements are growing year by year. Expand your sales with the help of CNC's representatives in 55 leading foreign markets. Contact us today.

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PULP & PAPER # MONTHLY REPORT of significant news and views

LOOK FOR INCREASED DEMAND FOR PAPERBOARD. . . . Department stores are turning to creative packaging to meet booming competition from supermarkets. Since 1945, supermarkets' sales rose 371% while department stores' volume grew only 32%. A joint National Retail Dry Goods Assn. and Folding Paper Box Assn. survey came up with the solution — more and better packaging to boost sales and cut costs. So the trend is toward packaging everything but the kitchen sink — and what a zip that will put in the paperboard market!

A HOT ITEM IN COATING, reports one coating expert, is coating Southern kraft for greaseproof, anti-tarnish, rodent and flame retardant. Reason: Saves about 10% of paper by overcoming creping, frictionizing. Coating kraft paper is tougher, however, is like trying to coat blotter stock.

1957 RECORD LIKELY. . . . First quarter figures on U.S. paper and paperboard proruction were off about 3% from 1956; hover around 7.8 million tons. At this rate, the industry would still beat 1955's 30.4 million tons.

YOU HAVE TO RUN LIKE THE DEVIL to even stand still is one reason why the pulp and paper industry has budgeted upwards of $1 billion for modernization of equipment. Also why International Paper Co., fresh from a $101 million layout for improvements in plants and properties in 1956, and some $36 million in woodlands, now plans an additional $101 million outlay this year.

POTLATCH'S NEW NO. 2 STARTS UP. . . . As stockholders of Potlatch Forests Inc. were advised by President William P. Davis, the new No. 2 Fourdrinier machine, 218 in. wide, started up according to schedule in early March. Black-Clawson converted a cylinder machine to Fourdrinier and Mr. Davis predicted it "should add materially to profits in 1957." Sales and other income were up 13% in 1956 to $85,630,000 but, as in many other companies, profits were down (13%). Costs were up 19% due primarily to high log costs, increased wages, maintenance and operating costs. . . .

NEW RESEARCH INSTITUTE AT SYRACUSE. . . . A new venture in dissolving pulp field is launched at Syracuse University. A Cellulose Research Institute has been established there by American Viscose, Buckeye Cellulose, Celanese Corp., Hercules Powder and the College of Forestry with Dr. J. J. Hermans from the Netherlands in charge.

AHEAD OF SCHEDULE. . . . Reports now say the new Gulf States Paper Corp. mill at Demopolis, Ala., may be starting up in June, ahead of the original July target.

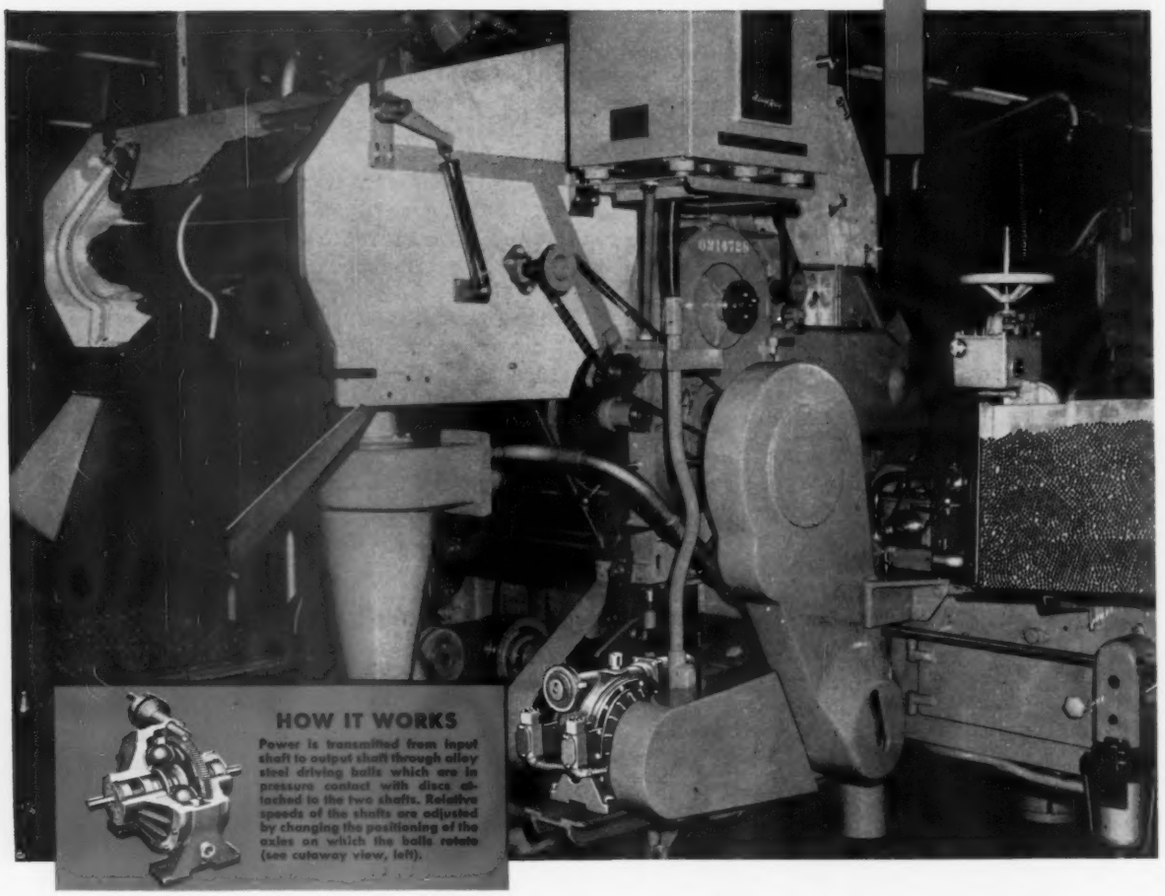
PHILIP MORRIS TO GET MILPRINT. . . . Milprint, Inc., with 1956 sales of over $55 million, will operate as a separate subsidiary of Philip Morris Inc. with continued present management, according to O. Parker McComas, pres. of Philip Morris and William Heller, Sr., chairman of Milprint. Milprint operates nine plants in the U.S., the principal one in Milwaukee, Wis.

ROBINSON-PATMAN ACT AMENDMENT OPPOSED. . . . Harold Murtfeldt, vice. pres., Consolidated Water Power & Paper Co., appeared before antitrust and monopoly legislation subcommittee and presented APPA's opposition to Senate bill 11 to amend the Robinson-Patman Act. Encouraging was apparent inclination of several members of subcommittee to regard evils that might flow from legislation as worse than those that would be allegedly removed.

Please turn page for more

AccuRay electronic brain gets muscle power from Cleveland Speed Variator

The electronic control mechanism of this cigarette machine, known as the AccuRay cigarette gage controller, built by Industrial Nucleonics Corp., Columbus, Ohio, employs Cleveland Speed Variator size 4K4, driven at 1200 rpm input.



HOW IT WORKS

Power is transmitted from input shaft to output shaft through alloy steel driving balls which are in pressure contact with discs attached to the two shafts. Relative speeds of the shafts are adjusted by changing the positioning of the axles on which the balls rotate (see cutaway view, left).

NATIONALLY famous for checking and controlling the making of Chesterfield cigarettes, AccuRay depends on a Cleveland Speed Variator for the delicate job of adjusting the tobacco feed rate in response to impulses from the gaging mechanism.

Being infinitely variable, the Cleveland Speed Variator gives stepless speeds over a full 9:1 range — from ⅓ to 3 times input speed. Output speed on this application is adjusted automatically by a regulating motor mounted on the Variator — but could be regulated manually or by remote controls of other types.

Available in eighteen standard types and sizes, the Cleveland Speed Variator offers these major advantages: 1. An extremely compact unit with input and output shafts in line and rotating in the same direction; 2. Almost any input speed up to 1800 rpm can be used — either clockwise or counterclockwise rotation; 3. Rated for constant horsepower output over a 9:1 range, or for constant output torque with a 6:1 range; 4. Infinitely variable over the entire speed range; 5. Rapid response to speed change, precise adjustment, and accurate maintenance of speed settings; 6. Long life and minimum maintenance due to absence of belts or complicated linkages; 7. Ample bearing support for overhung pulleys on either input or output shafts.

Write for Bulletin K-200 for detailed description with photographs, sectional drawings, rating tables and specifications.

THE CLEVELAND WORM AND GEAR COMPANY

Speed Variator Division, 3268 East 80th Street, Cleveland 4, Ohio

Sales Representatives in all major industrial markets • In Canada — Peacock Brothers Limited

continued

BIG FLORIDA LUMBER CO. SELLS OUT. . . . Alger-Sullivan Lumber Co. of Century, Fla., one of the largest in the Southeast, will sell its $25 million assets to St. Regis, International Paper and Scott Paper, as well as Timber Products Co. and The Koppers Co.

RECORD RECOVERY BOILER FOR HODGE. . . . Babcock & Wilcox is building the highest pressure, highest temperature chemical recovery boiler ever built for kraft pulping — a 300-ton boiler for Southern Advance Bag, Hodge, La. It will operate under steam pressure of 1,275 lbs. and steam temperature of 900° F.

1956 WAS GOOD YEAR FOR MAGAZINES. . . . Six of nine major magazine publishers showed higher earnings in 1956 than in 1955. Profit margins, figured on a net basis after taxes, ran as high as 10%. Two publishers lost money.

SPEED RECORD FOR BOOK PAPER. . . . Consolidated Water Power & Paper Co. spent $10,411,679 on plant installations in the past year. New Beloit suction pickup on Biron, Wis., No. 4 machine enabled it to boost speed by 500 fpm to 1,700 fpm, reportedly a world record for book paper. A new 184 in. trim Beloit machine at Biron will be running in July. At Wisconsin Rapids last year, semi-chemical pulping was expanded 30 tons, and bleaching of hardwood pulps started.

STILL BEHIND GROWTH IN DEMAND. . . . Despite rapid expansion of fine paper production by Nekoosa-Edwards Paper Co., the company reports its output in these grades still lags behind growth in demand. A new 1,500 fpm Beloit fine paper machine at Nekoosa, Wis., will start up in 1958. In two years, $13,500,000 will be spent, additions including two new digesters, power facilities, new woodroom.

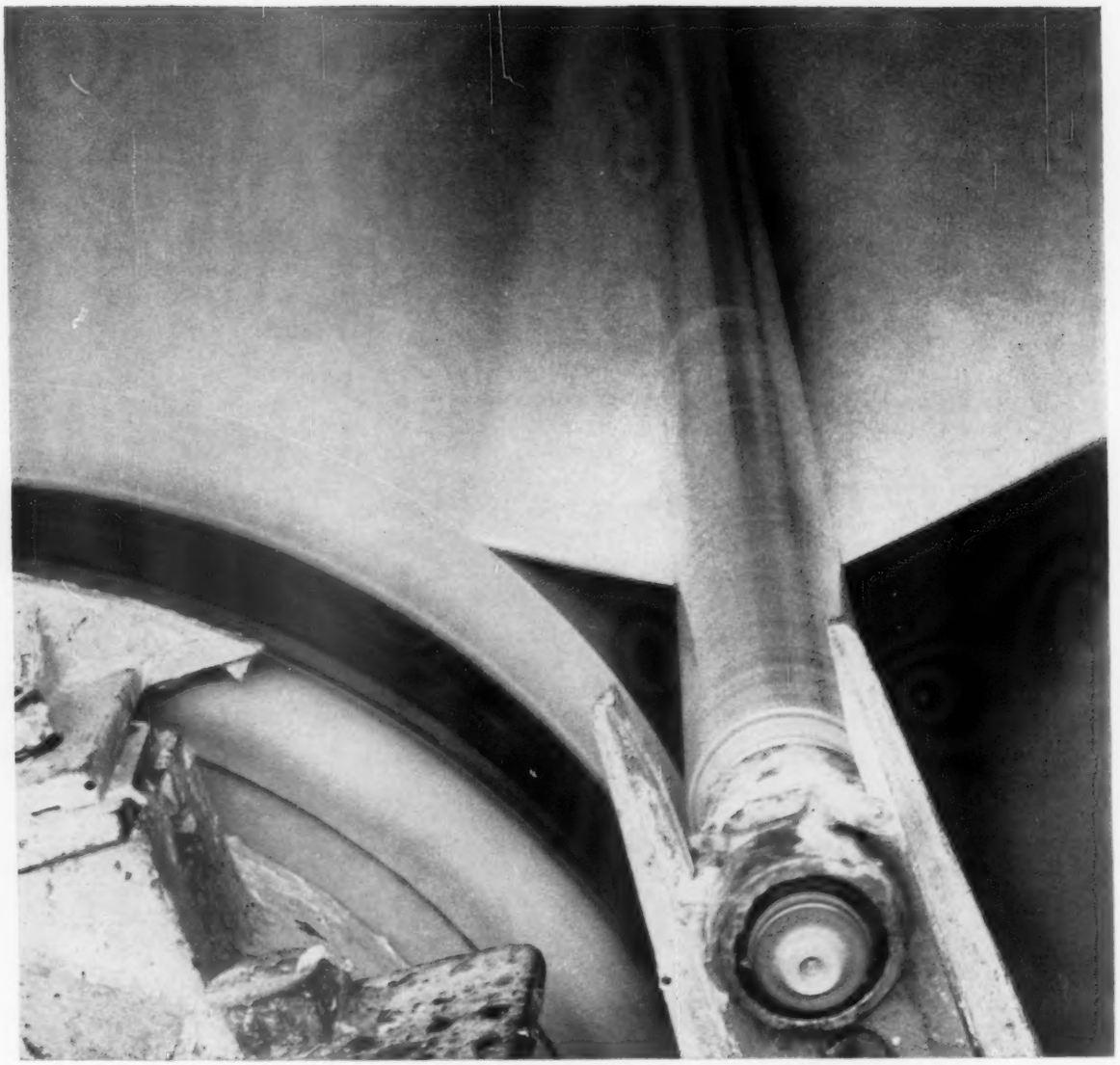
MORE PAPER CUSTOMERS. . . . U.S. population hit 170,000,000, the Bureau of Census estimates, based on vital statistics that indicate an annual rate of population growth of almost 3,000,000 persons. That's one more every 12 seconds, taking into account births, deaths, etc.

HOW ABOUT PROFITS? . . . The pulp and paper industry is doing very well, but its earnings are not up in such high brackets as to cause raised eyebrows. Wall St. Journal reported on earnings of 750 companies in 1956. It showed 23 pulp and paper companies with earnings of $169,325,000, up 9% from 1955. This was one of 25 groups with increases; ten others showed decreases. Tools and machinery were up 40%; groceries up 33%; drugs up 30%; distillers up 27%. Automobiles were off 34%; radio and television off 23%; textiles off 16%.

POWELL RIVER'S NEXT PROJECT is planning pulp or paper mill in Deschutes area of Oregon — a sequel to recent acquisition of Brooks-Scanlon wood plants and timber in Bend region. Location and type of mill probably will be decided within three months. Powell River Co. was founded by members of Brooks and Scanlon families.

POSTPONE BUILDING PAPER MACHINES. . . . David L. Luke, Jr., president, says that West Virginia Pulp & Paper Co. will delay construction of two paper machines at Luke, Md., expected to cost over $50 million, because of "probable surplus capacity of the paper industry."

Please turn page for more



80% of the papermaker's job is finished here, but poor roll performance can waste it . . .

At the point where the web leaves the wire to enter the first press section, rubber roll performance can make or break the entire operation.

Anything less than the best rubber covered rolls can result in reduced speed and lost production. They can result in excessive picking, uneven sheet formation, and breaks. Stowe-Woodward rolls, carefully selected for the specific conditions of stock and machine operation, are inconspicuous . . . except in the trouble-free production which they provide.

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NEENAH, WISCONSIN
GRIFFIN, GEORGIA

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New York office: WOOLWORTH BUILDING, NEW YORK 7, N. Y. ● *On the West Coast:* HUNTINGTON RUBBER MILLS, INC., SEATTLE

continued

NEW FIBERS FROM BARK AND NEEDLES. . . . Discovery of a new synthetic fiber based on the conversion of waste pulp liquors is announced by Dr. Louis H. Bock and James K. Anderson of Rayonier Inc. They report useful synthetic polyester fibers could be obtained from lignin waste. The fibers are based upon vanillin converted to protocatechuic acid which also is obtainable from both bark and needles of western hemlock, and reveal tensile strength as high as 4.4 grams per denier.

NEW MACHINE FOR ECUSTA. . . . Ecusta Paper Division, Olin Mathieson Chemical Corp., started building for its tenth paper machine in early April. Daniel Construction Co., Inc., Greenville, S.C., has contracted substructure work. The new machine is being constructed by Rice Barton Corp. Most stock preparation will be by E. D. Jones & Sons. Chas. T. Main, Inc., is consulting engineer.

NEW REPORT ON SCOTT. . . . Scott Paper Co. set all-time sales record in 1956 of $270,311,337, which was 9.6% up from 1955. Sales of pulp decreased as more was used in Scott mills. Company and counsel are confident existing law does not support FTC charges of antitrust laws violations.

MORE FINE PAPER. . . . A $7,000,000 program to increase fine and printing paper production 60,000 tons a year by mid-1958 is underway in four St. Regis mills. Machines are being speeded up at Bucksport, Me., Deferiet and Harrisville, N.Y., and Sartell, Minn.

MEAD TO BUILD NSSC RECOVERY PLANT. . . . A $2,700,000 neutral sulfite recovery plant will be built at Mead Corp.'s Heald Division in Lynchburg, Va., to use the new Mead patented process commercially for the first time. Evaporators and pulp washers will be by Swenson, boiler and recovery by Babcock & Wilcox.

GAIR TO BUILD TEXAS CONTAINER PLANT. . . . Robert Gair Division of Continental Can Corp. will build a two million dollar shipping container plant at Owentown, outside Tyler, Tex.

BUILDS SOUTH CAROLINA MILL. . . . Work is beginning on Bowater's new $38 million 400 ton sulfate pulp mill as Catawba, S.C.

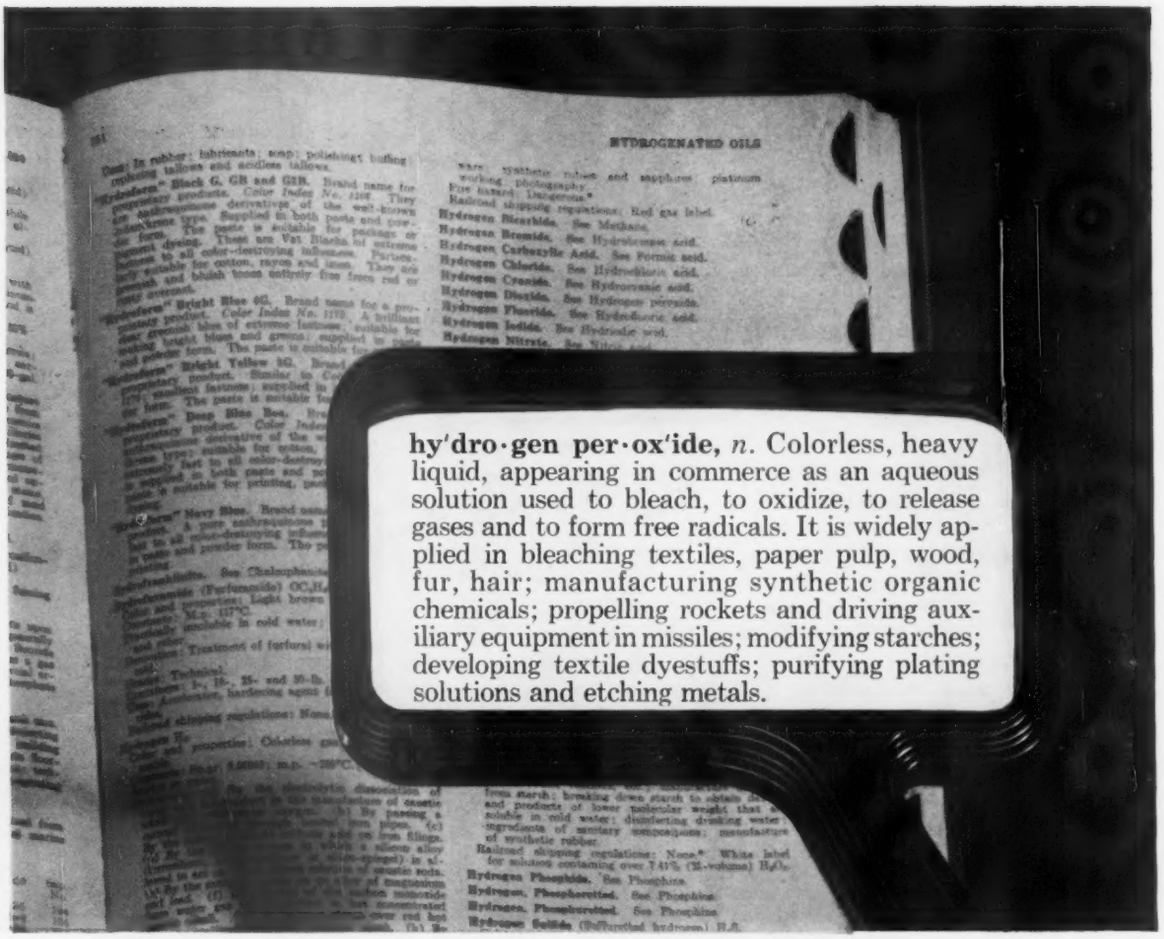
NEW ADDITIONS BY RAYONIER. . . . A new chlorine dioxide plant and additional bleach stage with ClO_2 at the Port Angeles, Wash., Rayonier mill were installed during 1956, says its annual report. Port Angeles division is using a new fast method of measuring volume of random length truck wood by weight. A new steel and concrete woodmill at Rayonier's Grays Harbor, Wash., mill will handle all sizes of wood. Sawmill chips now constitute 15% to 20% of fiber used at Shelton and Grays Harbor mills.

NEW MACHINE AT FORT HOWARD. . . . Fort Howard Paper Co. of Green Bay, Wis., is now making paper on their No. 6 machine, a 132 in. Yankee Fourdrinier like the other five. A new three-story building to house towel converting equipment is nearing completion.

ST. REGIS SALES UP. . . . Sales of St. Regis and consolidated subsidiaries totalled $330,565,986 in 1956, as compared with $257,056,527 in 1955.

CONSTRUCTION IS ON SCHEDULE, says H. R. Stokes, resident engineer of Johns-Manville Corp.'s $12 million insulating board plant at Klamath Falls, Ore.

Please turn page for more


HYDROGENATED OILS
hy'dro·gen per·ox'ide, n. Colorless, heavy liquid, appearing in commerce as an aqueous solution used to bleach, to oxidize, to release gases and to form free radicals. It is widely applied in bleaching textiles, paper pulp, wood, fur, hair; manufacturing synthetic organic chemicals; propelling rockets and driving auxiliary equipment in missiles; modifying starches; developing textile dyestuffs; purifying plating solutions and etching metals.

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continued

INTEREST IN MANITOBA MILL. . . . A U.S. investment group including Harriman Ripley, Kuhn Loeb and Canadian & General Development Corp., all of New York, is studying possibility of a pulp mill in Northern Manitoba, using power from International Nickel Co.'s $175,000,000 Moak Lake mining and metallurgical development. PULP & PAPER's February Monthly Report mentioned Powell River Co.'s interest in operating a mill there. Abitibi is interested, too.

PROFITS UP FOR GEORGIA-PACIFIC. . . . Georgia-Pacific Corp., top plywood producer now building a 250-ton kraft mill for start-up late this year at Toledo, Ore., reports a 19% increase in net profits for 1956. Outlook for increased earnings in 1957 is good and long-term prospects are excellent, says Pres. Owen R. Cheatham. Sales for 1956 were $121,305,307, an increase of $29,339,303 over 1955 sales of $91,966,004.

SEES GOOD YEAR. . . . "Link-Belt Co. should have another good year in '57," writes Pres. Robert C. Becherer in the company's annual report for 1956. Sales of $163,921,863 in 1956 were 27% above any previous year. Link-Belt Speeder Corp. had a record year and greatly enlarged its facilities.

PROJECTS IN SASKATCHEWAN. . . . A California group, Ellis Patterson & Associates, is investigating pulp mill possibilities in the Meadow Lake area of Saskatchewan. Another Saskatchewan project involves possible use of pulpwood in the Churchill River area.

RECORD YEAR FOR CONTAINER CORP. . . . Container Corp. of America's earnings for 1956 were $18,230,919, up 11.1% over 1955 total of $16,411,491. Its Brewton, Ala., bleached sulfate pulp and board mill should start up during the last quarter of 1957, and the new Santa Clara (Calif.) paperboard mill in late summer. New container plants at Muskogee, Okla., and Dolton, Ill., and folding carton factory at Renton, Wash., will be in operation this year.

NEW WOODROOM FOR CHARMIN. . . . Construction of a new woodroom recently began at division B plant of Charmin Paper Products Co., Green Bay, Wis. A new Carthage 96 in. Norman chipper, D. J. Murray log splitter, 54 in. rubber belt for feeding chips at 240 fpm, conveying equipment by Chain Belt and chip screens from Link Belt have been ordered.

PAPERBOARD MILL IN TEXAS. . . . A new U.S. Gypsum paperboard mill at Galena Park, Tex., near Houston, has Black-Clawson 121 in., 8-cylinder paperboard machine, 150 ton per day capacity.

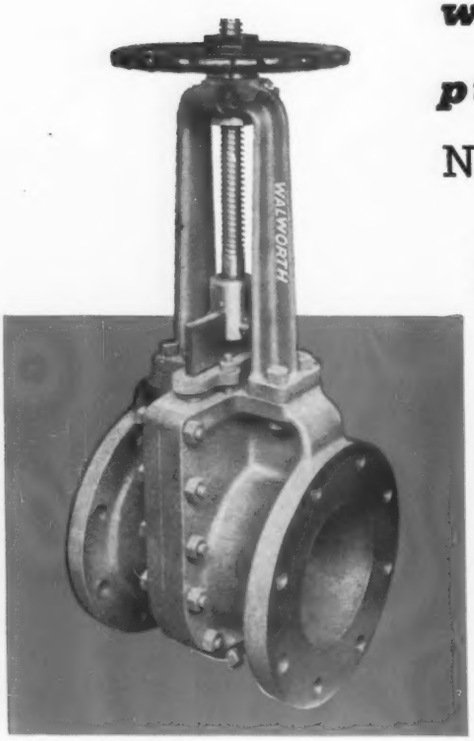
RAYONIER UPS CAPACITY. . . . Rayonier Inc. reports that net sales for 1956 were $137,873,157, compared to $142,520,969 in 1955, for the second best year in the company's history. New mill at Jesup, Ga. (ready in 4th quarter) and expansion of the Port Alice, B.C., mill account for about half of capital expenditures of $31,139,463 in 1956.

NEWSPAPER PRICE BOOST. . . . Prices have been increased by a number of newspapers throughout the country, with many dailies going from 5 cents to 7 and 10 cents. Some Sunday papers are up to 25 cents per copy now.

JUNE START-UP FOR CANADIAN MILL. . . . Prairie Fibreboard's new insulation board and hardboard plant in Saskatoon, Sask., will be completed and in production by late June.

ASSURE *clogproof valve operation on stock lines with* **WALWORTH** *pulp stock valve*

No. 757F sizes 4" to 16" inclusive

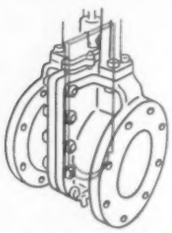


Clogproof operation makes this Walworth Gate Valve particularly suitable wherever pipelines transport pulp stock or other suspensions carrying solids or fibrous matter. There are no bonnet recesses or body obstructions to accumulate matter . . . circular ports permit full flow . . . semi-circular gate closes to a tight leakproof shutoff.

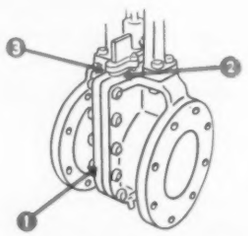
Suitable for a wide range of fluids and operating conditions, this unique valve design is available in All Bronze, Iron Body with Bronze Trim, Iron Body with Stainless Steel Trim, and All Stainless Steel construction. Handwheel, sliding-stem-and-lever, motor, and cylinder operation are available.

The complete Walworth line now includes valves and fittings for "across-the-board" use in pulp and paper mills. Gate, globe, angle, check and lubricated plug valves, as well as pipe fittings, in all conventional sizes and types. For additional technical data on the No. 757F — or any Walworth product — see your nearby Walworth Distributor or write:

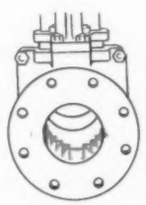
Check these features:



Semi-circular Shearing Gate...Sharpened, beveled edge of the gate shears through matter without touching inlet or outlet halves of the body. At point of closure a tight, leakproof shutoff occurs as the heel of the gate shearing edge wedges with a lug in the inlet half of the body. Ample gate length permits re-sharpening.



Bonnetless Design . . . 1) Two-piece body is bolted together and gasketed on a vertical centerline. 2) Stuffing box is an integral part of the body. 3) Packing and one-piece gland completely encompass gate.



Body Shearing Notches...Lower portion of the seat of the outlet half of the body is notched to better distribute the fibers of the pulp stock. This makes it easier for the gate to cut through fibrous material.

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PULP & PAPER NEWS FROM 'ROUND THE WORLD

Optimism in Russia

Moscow . . . An editorial in Pravda says: "Papermakers at Tallinn have obtained an output up to one ton of pulp per cubic meter of digester. Workers in the acid shop at the Archangel Paper Combine have increased the production of cooking liquor 50%."

The editorial recommends that "pace setters" be introduced to raise output of pulp per cubic meter of digester, scheduling be improved, and obsolete equipment be replaced. It states that large scale production of pulp from straw and long fiber grasses should be developed.

In closing, the editorial points out that "The more paper the country gets, the more extensively will knowledge be propagandized among the broad masses of working people."

Renew Plans for Swedish Mill

Monsteras, Sweden . . . A sulfate mill with an initial capacity of 70,000 tons per year, including a bleach plant for half that output, is being built here, on the Swedish east coast, by Skogsagarnas Cellulosa AB (The Forest Owners' Cellulose Co.). Previously announced in 1952, the project was delayed by opposition of local fisherman. Regulations now require carrying waste liquor out into the sea. Completion is scheduled by the end of 1958. About 60,000 individual forest owners and a number of forest organizations have subscribed for shares. Rutger Martin-Lof is managing director.

New Semichemical Pulp Process

By Hans Baar
PULP & PAPER Correspondent in South Africa

Cape Town . . . Experts at the Ybbstaler Pappenfabriken in Austria have invented a new process for making light-colored semi-chemical pulps of good strength from both softwoods and hardwoods, as well as annual plants. Known as the ALB-Semicell process, it produces pulp similar in color to unbleached sulfite from spruce, without any bleaching.

The yield of ALB-Semicell is said to be 80% or more, making a considerable saving in wood and production costs. By using it to replace entirely the unbleached sulfite pulp in newsprint and other printing papers, the need for a full chemical pulp installation in addition to the groundwood plant can be eliminated. Certain grades of waste wood and thinnings can be used. This method can also be used in the fine paper field, or for production of white liners in multi-layer boards, if the pulp is brightened by peroxide, for example. Bleaching loss is only a few percent.

The pulp felts and drains well, is opaque, and makes a good paper or board surface with excellent printability.

Swedish Exports Up in '56

Stockholm (Swed. International Press Bureau) . . . Sweden's exports of pulp and paper to the U.S. Pacific coast rose from $244,000 during the first three quarters of 1955 to $1,059,000 during the same period in 1956, according to the Swedish Chamber of Commerce of the U.S.A. Other products exported by Sweden to this area rose from $2,488,000 to $4,274,000. Pulp and paper and automobiles were the two biggest categories.

New Cuban Bagasse Mill

Trinidad, Cuba . . . Papelera Pulpa-Cuba S.A.'s 100 ton bleached bagasse paper and board mill, under construction near this southern Cuban port town, won't be caught short on its supply of bagasse, says Jesus Azqueta, president of the new company. The facilities include an excellent transportation system for bringing in bagasse from all surrounding sugar mills, in addition to the full supply from Central Trinidad.

The new company will not depend on surplus bagasse, but will replace the entire bagasse supply of sugar mills with fuel oil, making all bagasse available for pulp and paper. Officials of Papelera Pulpa believe that no new bagasse mill can depend on surplus bagasse. Mr. Azqueta operates three sugar mills in Cuba and one in Venezula, and G. Castro, vice president, has interests in two others.

Parsons & Whittemore, New York, is supplying equipment for the $12,000,000 mill, to be completed in July 1958. Y. T. Kao, a leading expert on pulping bagasse, has joined the executive staff. Mr. Kao was mill manager of the Hsinying pulp mill at Hsinying, Taiwan, for 10½ years. One of the first mills to use bagasse on a large scale profitably, the Taiwan mill has a daily capacity of 80 tons of bleached pulp.

English Firm Expands

Dartford, Kent, England . . . A new $5,600,000 mill, to be in operation by Jan. 1958, is under construction for Dartford Paper Mills Ltd., adjacent to the firm's existing mill here. It will include a stock preparation plant, machine room, finishing department, chemical plant and well water supply.

Black-Clawson International Ltd. will install a continuous stock preparation system with Hydrapulpers, Hydrafiners and jordans. A high-speed machine, 180 in. wide, will be by Millspaugh Ltd., with unusual design features, particularly in the press section.

Output will be concentrated on banks, bond and manifold, glazed imitation parchment and related specialties.

Russia's Growth Limited

Moscow . . . M. Lyskov, deputy minister of paper production, recently stated in the "Moscow Journal" that despite the enormous expansion in paper production during the past few years, paper consumption per capita in the Soviet Union is only 15 kilos (33 lbs.) annually. The shortage of paper and board machines, plus the fact that lack of coordination in research work impaired the quality of machinery and consequently of paper and paper products are the main obstacles to further expansion, he said.

Canadians Join Mexican Mill

Vancouver, B. C. . . . C. D. Schultz, Vancouver consulting forester, has carried out extensive timber surveys for Fabricans de Papel Tuxtepec, whose 100 ton, $10,000,000 newsprint mill 450 miles south of Mexico City will be in production by Jan 1958. E. C. "Cy" Oldham, former head of the British Coumbia Forest Service parks division, is now technical director of the company's forest operations. Many technical heads of the new Mexican mill are from Canada. The mill will produce one half of the country's requirements.

Exports to 11 Nations

Bellingham, Wash., USA . . . Puget Sound Pulp & Timber Co. reports that 13.5% of its record-breaking 1956 sales of $24,141,502 (up $671,576) were in the export market—to 11 countries—Mexico, Japan, the Philippines, Canada, Australia and others in Europe and Latin America. Ketchikan Pulp, owned jointly by Puget and American Viscose, also exported a portion of its record sales of $21,508,759 (up $2,112,000). Five-sixths of Ketchikan output was dissolving pulp.

when you're handling CHIPS...

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SPECIFICALLY ... NOTHING BEATS *CONVEYAIR* FOR MOVING CHIPS *ANY DISTANCE — ANYWHERE — AT LESS COST!*

Conveyair's "Chipveyor" will reduce your chip-handling costs right down the line . . . it costs less to install, less to operate, less to maintain . . . but that's only half the Conveyair story; the real merit of this pneumatic conveying system lies in its *flexibility*, and its excellent performance over both short and long distances.

Conveyair's flexibility starts on the drawing board, where every Chipveyor is designed to do a specific handling job . . . it may be required to move chips, hog fuel, planer shavings, sawdust or other granular materials a few hundred feet, or well over a mile . . . to go under, over, or around obstacles . . . to deliver the material under pressure or incorporate a cyclone to simulate gravity discharge. With this flexibility in design and installation, a Chipveyor is often the *only* conveying system which can be adapted to a mill without extensive and costly alterations to layout.

Conveyair maintains complete engineering and research facilities . . . all components are built to rigid standards in our own plant . . . factory-trained engineers supervise every installation . . . service agencies are located in most principal cities.

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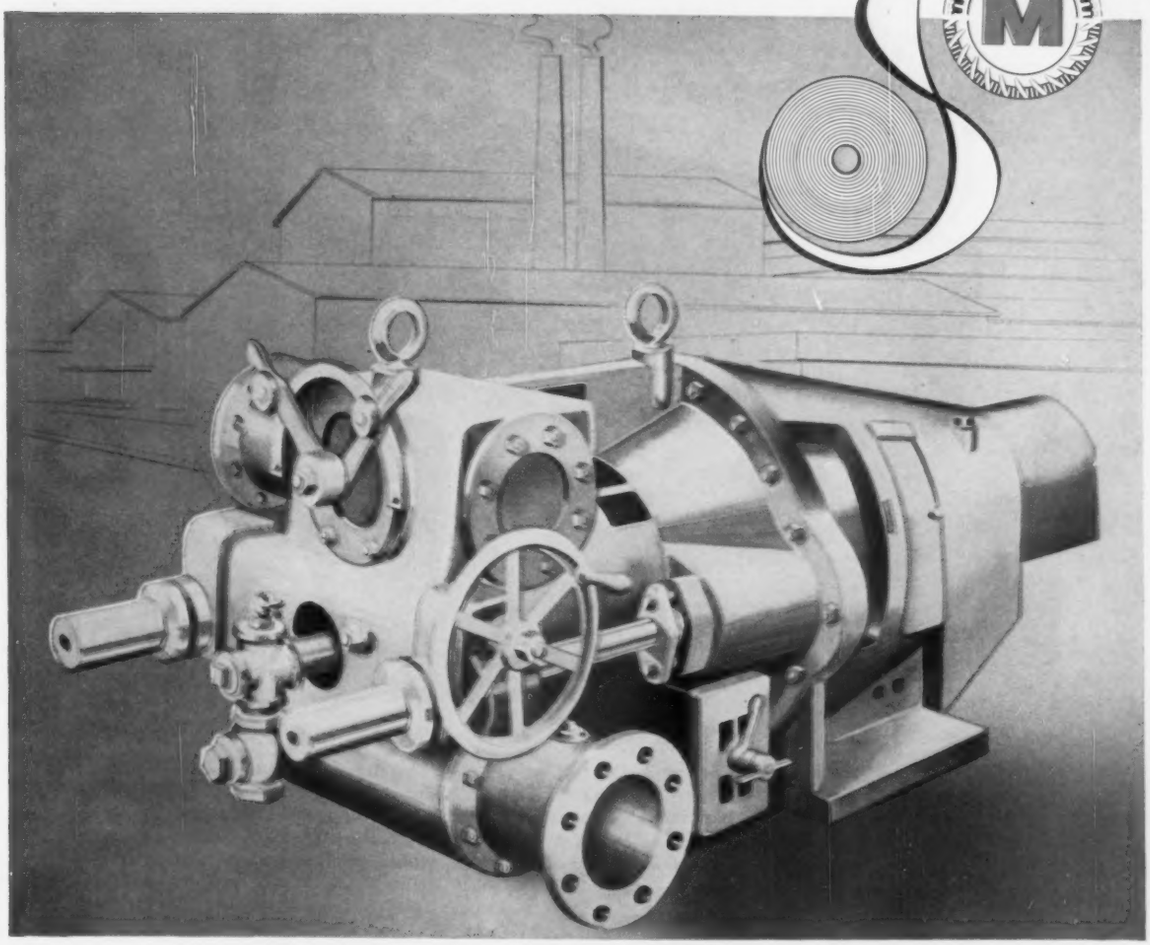

Specialists in Quality and Service

In hundreds of mills, in more than 20 countries, Morden machinery is depended upon for quality stock preparation.

There is a definite reason for this widespread confidence. Morden has specialized in stock preparation equipment ever since its founding in 1931. Morden's sole concern is the manufacture and improvement of equipment to simplify stock preparation. Morden maintains its own laboratory where Morden equipment is tested and adapted to solve specific mill problems. In addition, Morden's personnel is traveling continually to assist in the use of Morden equipment.

If your mill is interested in quality production with worth-while savings in power and labor, it will pay you to investigate the many advantages of Mordenizing your stock preparation. For further details refer to your Morden Catalog, or if you do not have one, send for your copy and ask us to visit you for an in-the-mill discussion of your requirements.

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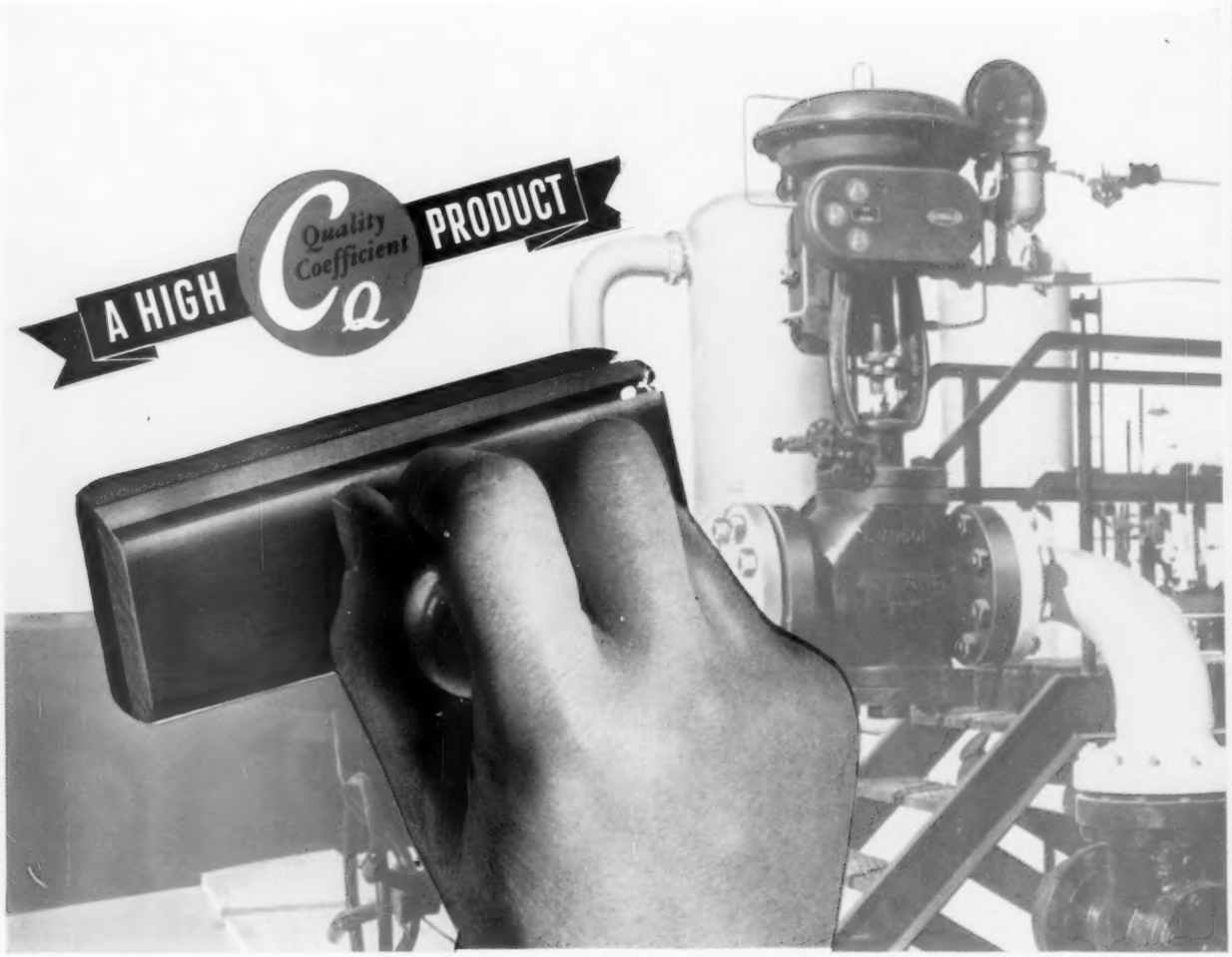
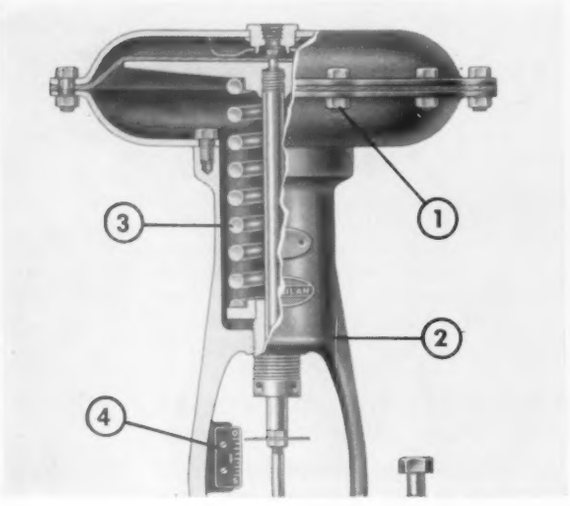
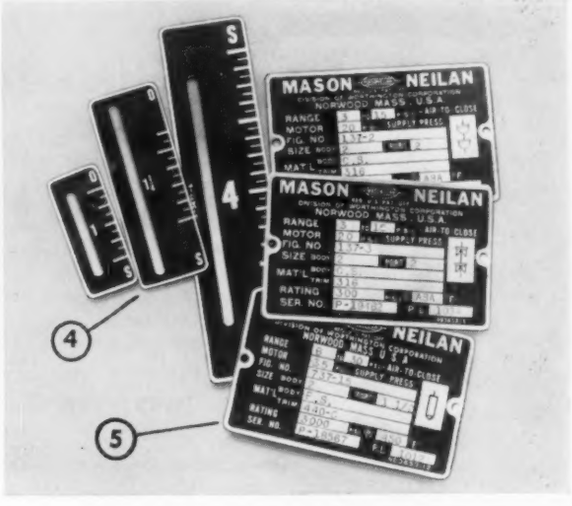
UNITED STATES REPRESENTATIVES — Midwest: Dan B. Chapman, Appleton, Wis.; Northeast: Orton Corporation, Fitchburg, Mass.; South: Brandon Sales, Greenville, S. C.



(1) Bolted diaphragm case assures tightness, offers no pockets to accumulate moisture, permits use of flat stock diaphragms in emergency. (2) Cast iron yoke provides inherent rust resistance and rigidity — cannot get out of alignment. (3) Standard 6-30 psi range springs available (at no extra cost) for easy interchangeability with 3-15 psi range. (4) Stroke scale shows actual increments of plug travel. (5) Full specification data on serial plate gives complete information at a glance.





Masoneilan Control Valves Pioneer in

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Practical Engineering Builds In Features to Speed Servicing, Reduce Time Losses

Practical engineering aims at reducing maintenance to a minimum and speeding unavoidable servicing. That's one reason Masoneilan Valves find such widespread acceptance — they combine the economies of long life, low service costs and minimum downtime.

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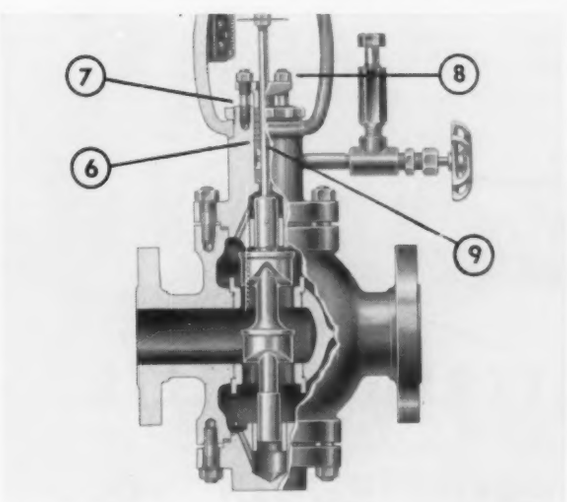
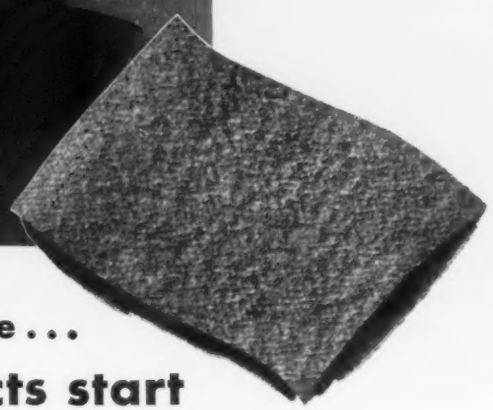
(6) Split-ring, preformed packing assures long service, ease of replacement. (7) Motor is easily removed from bonnet without disturbing packing box. (8) Bolted packing box assures maximum seal with minimum friction; provides visual check on packing life. (9) Superfinished stems move freely, reduce packing box friction, increase packing life. (10) Interchangeability of trim parts assures accurate fit of replacements, speeds conversion for change of process.



At Oriskany, we start *right* with the *right felt design.* Our technical personnel, our designers, our chemists—all these specialists combine their talents to develop the felt that's best for your particular operation.



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Whether you are running the finest tissue or the heaviest board, you'll get more uniform production when the felt you use is *specifically designed* for your machine and the type of paper product you are making. At Oriskany, your particular requirements are analyzed by our production staff, and your felt is designed with the proper characteristics for finish and drainage and fiber strength to produce the best results on your machine operation. We can also treat the felt with our exclusive chemical formulas to combat unusual conditions.

Do you have a special felt problem? Talk to the competent Oriskany Sales Engineer when he calls at your mill. He can offer you sound, helpful advice, and he can suggest a design improvement or one of our many chemical treatments to correct your specific felt problem.

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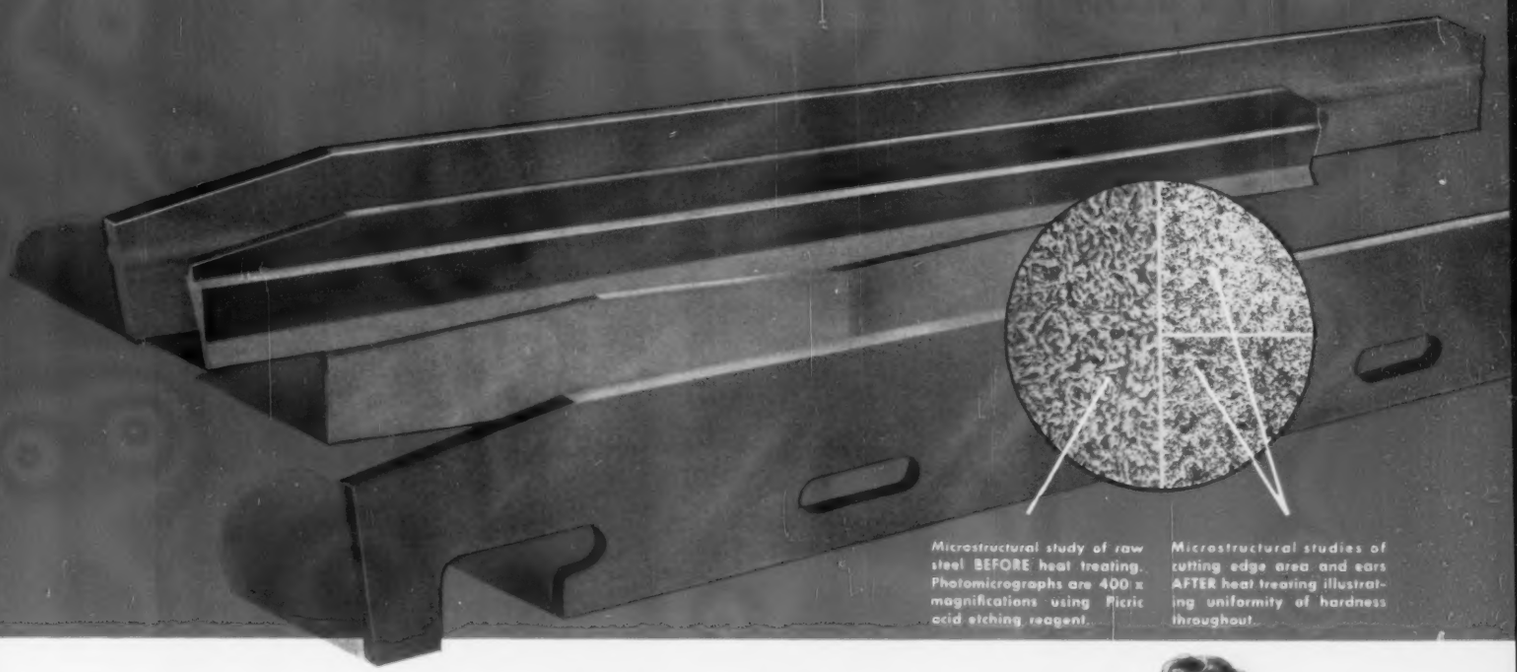
WHY *Microlyzed** JORDAN FILLINGS ARE NOTED FOR ENDURANCE



Microstructural study of raw steel BEFORE heat treating. Photomicrographs are 400 x magnifications using Picric acid etching reagent.

Microstructural studies of cutting edge area and ears AFTER heat treating illustrating uniformity of hardness throughout.

Regardless of the stock, consistency or pressure, MICROLYZED Fillings by BOLTON lead in providing what papermakers want most in Jordan Fillings . . .

LONG WEAR *because they are custom-processed from specified Jordan steel to a precise balance of hardness and toughness.*

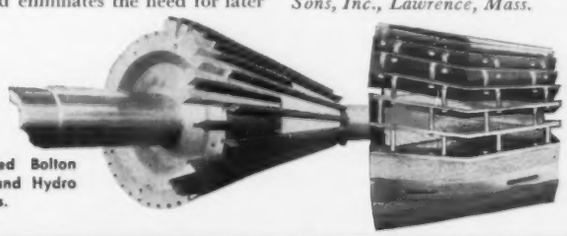
EVEN WEAR OF PLUG AND SHELL KNIVES *because of guaranteed uniformity of hardness in each set of fillings and throughout each knife in the set.*

In the manufacture of Jordan Fillings, Bolton controls the entire process. Starting in the laboratory, a photomicrostructural analysis is made of each shipment of Jordan steel. Destructive mechanical properties tests are made, which must fall within the rigid tolerance standards established. During production, non-destructive tests assure the desired properties previously determined are achieved during heat treatment.

Furnace temperatures are controlled to within tolerances of 5 degrees. Hardening is done in a BOLTON-designed quench in which each knife is clamped to maintain straightness. This exclusive method eliminates the need for later straightening. Papermakers receive the benefits of a stress-free product.

Knowing that performance is a reflection of the materials used and the degree of skill and care shown in fabrication, no compromise is permitted at BOLTON.

Fifty two years of specialized Jordan Fillings experience is built in to every knife. So is the craftsmen's attitude — an attitude of conviction that none will deliver longer, more economical, day in day out resistance to wear than BOLTON MICROLYZED FILLINGS . . . RING TYPE — WEDGELESS — HYDRO-TRUSS. *All are made by John W. Bolton & Sons, Inc., Lawrence, Mass.*



Partially assembled Bolton Wedgeless Plug and Hydro Truss Shell Fillings.

The Papermaker suggests:

Write today for Bulletin No. F-556 on Bolton Microlyzed Fillings. It has full information on:

- *Wedgeless Plug Fillings*
- *Hydro-Truss Shell Fillings*
- *Ring Type Fillings*
- *Special Heat-Treated Steel*
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For BLEACHED semi-chemical pulp production

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36-2 Refiners

Two Sprout-Waldron 36-2 Refiners pulp semi-chemically cooked chips at the Carolina Division of the Riegel Paper Corporation. The refiners are fed from the blow tank through a Sprout-Waldron feeding system of Rotaflow Feeders, Flat Bed Drainers, and Magneguard Chip Chutes to provide uniform, controlled refiner feed at high consistency.

The SPROUT-WALDRON REFINER is the LEADING Producer of Semi-chemical Pulp

SINGLE ROTATING DISC design with PERIPHERAL CONTROL RING plus rugged construction for

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- HIGH CAPACITY
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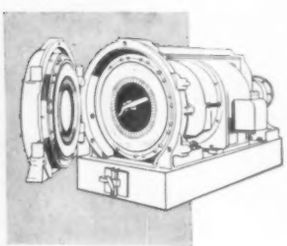

For more information on semi-chemical pulping or any other pulping problem ask for our file of mill technical reports on your problem. Write to Sprout, Waldron & Co., Inc., 32 Logan St., Muncy, Pa.

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PULP MILL EQUIPMENT

PP/423

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If you're in the business of providing wood chips to pulp mills . . . and chipping "cat face" pine is one of your problems, SIMONDS WASTE WOOD CHIPPER KNIVES will make more money for you.

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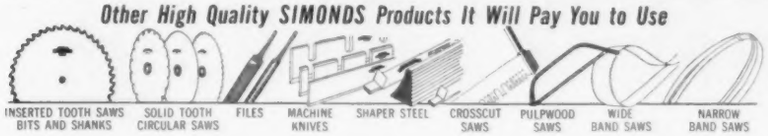

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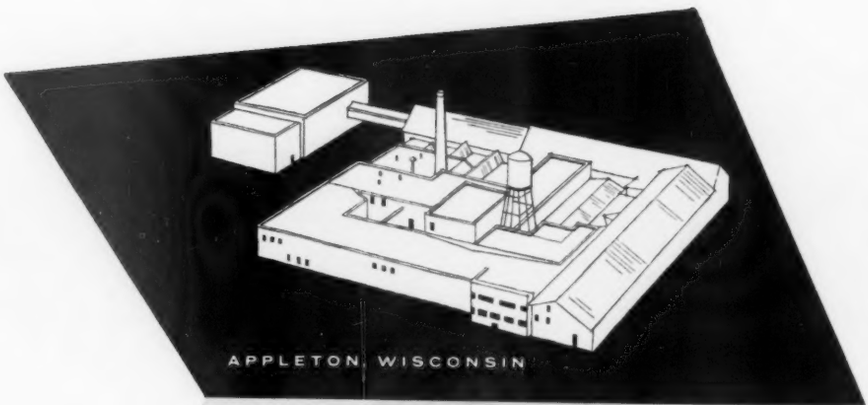

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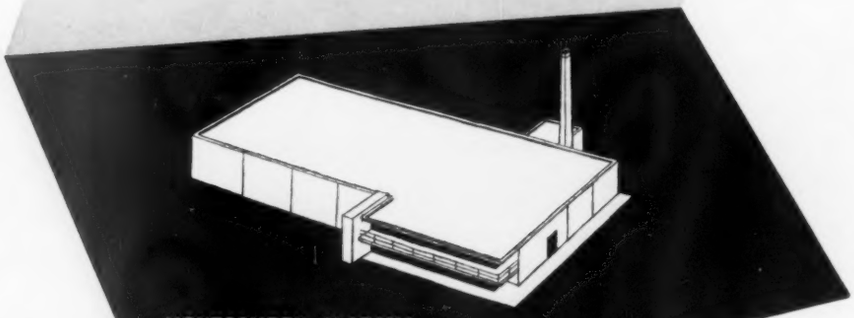

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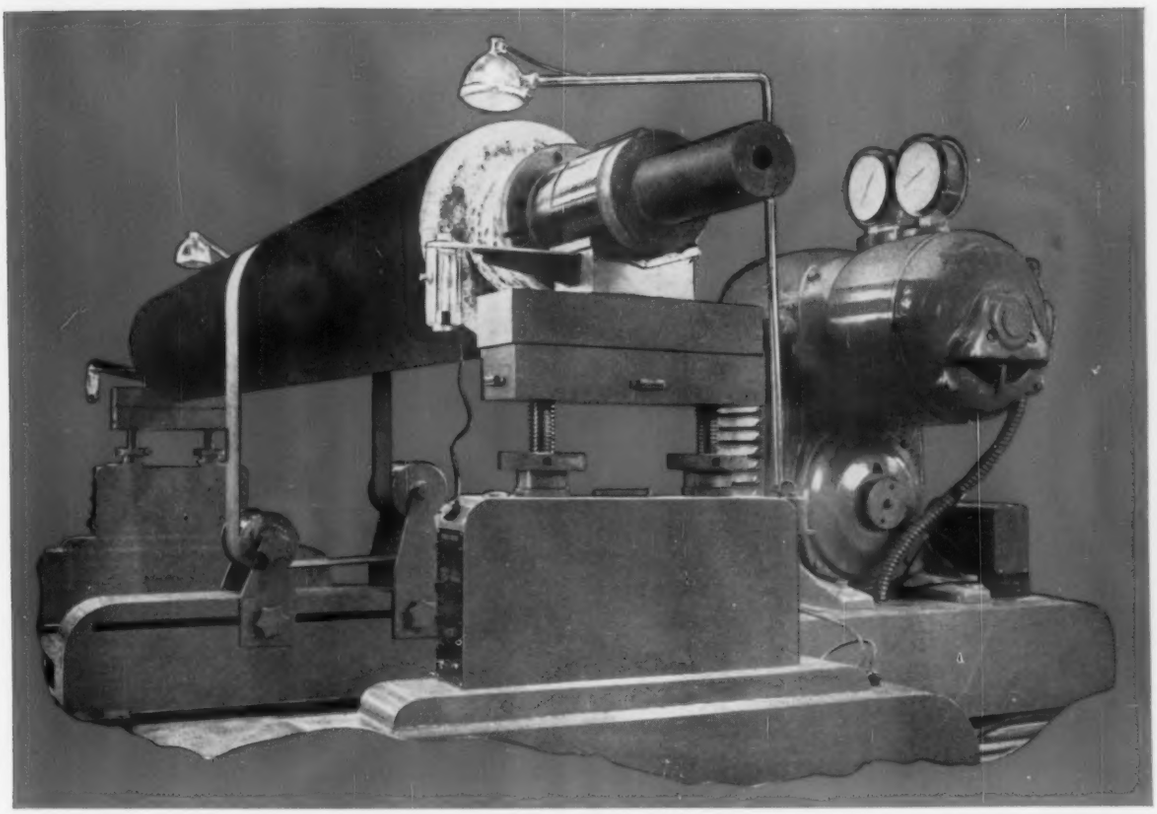

Meet the Dynamic Balancer—another factor in what it takes to make precision-perfect roll coverings

No matter how good the core, no matter how excellent the rubber cover, a high-speed roll that isn't balanced to precision perfection is sure to mean trouble. That's why, at the huge U. S. Rubber roll covering plant in Providence, Rhode Island, this latest word in roll-balancing equipment is used – the Dynamic Balancer.

When you specify dynamic balancing, your roll is put on the Dynamic Balancer and tested for exact balance, both before the roll is rubber-covered and again after it is ground, polished and ready for crating. A variable-speed drive *checks the roll at the speed you require.* Any balance deviation, no matter how slight, is electronically indicated and corrected. This means that when your roll is crated and ready for shipment, it is balanced to *precision perfection.*

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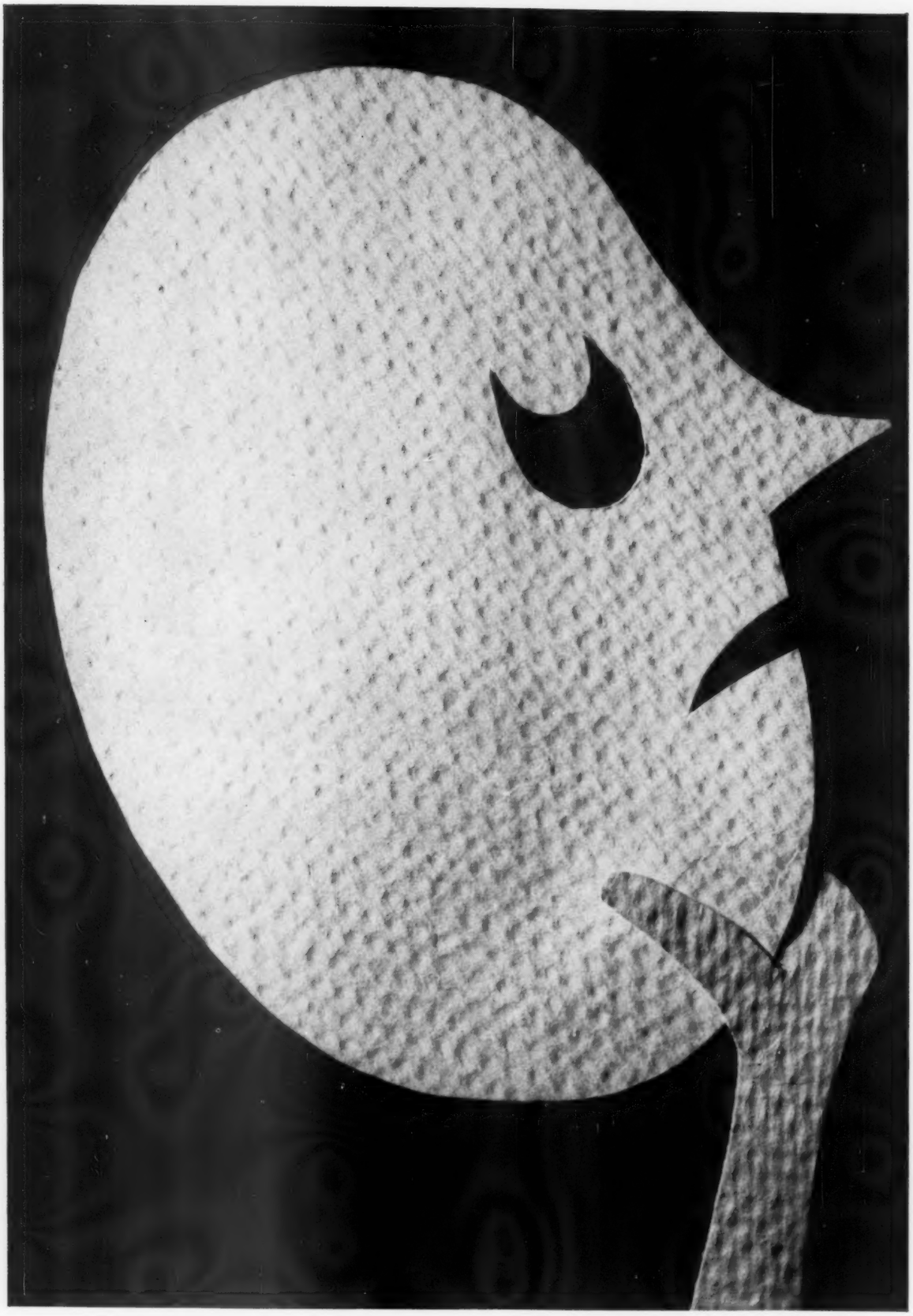

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Vast forest reserves and the resources of eight great mills make Mead the dependable source of pulp supply.

Mead's modern and extensive research facilities, plus Mead's devotion to the importance of quality, are extra insurance that the pulp you buy meets or exceeds any standard.

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The B&W Cyclone Evaporator utilizes the heat in flue gases to concentrate liquor solids being processed in the liquor recovery system. It requires no moving parts to accomplish this.

Hot flue gases are brought into the Cyclone Separator at high velocity in such a way as to give them a cyclonic motion. Black liquor is sprayed in at several points; the inner shell of the cylinder is continuously washed by the droplets thrown against it by the action of the gas, and water is evaporated during this process. Droplets fall by gravity to the bottom, where they are collected. They then go to the recovery furnace.

Dependable, continuous service is essential in all parts of the recovery unit. B&W Recovery Units, with B&W Cyclone Evaporators, have proved their value for efficient chemical and heat recovery with low-cost operation. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd Street, New York 17, N.Y.

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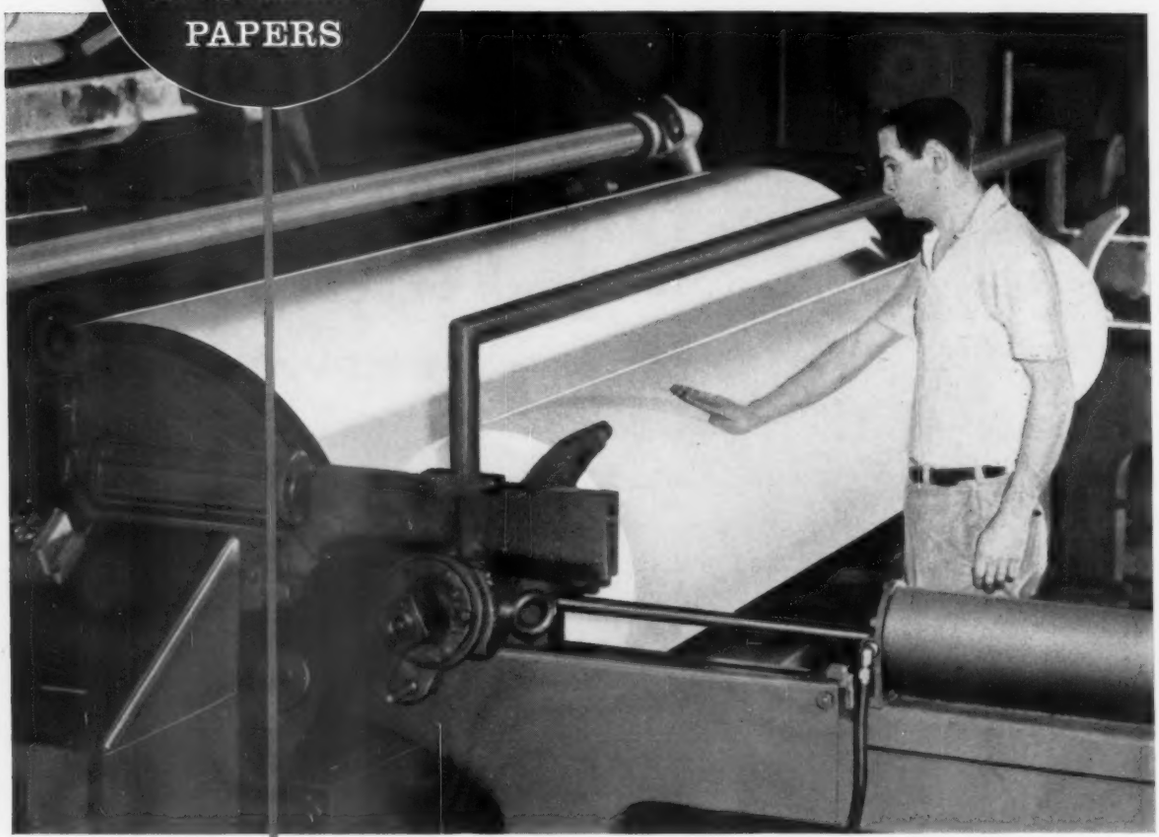

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Used for calender sizing and general coating, Hercules Starches impart greater tensile and bursting strength, and increased snap and rattle. Through formation of a thin, transparent, almost colorless coating they also provide increased resistance to scuffing, folding and erasure.

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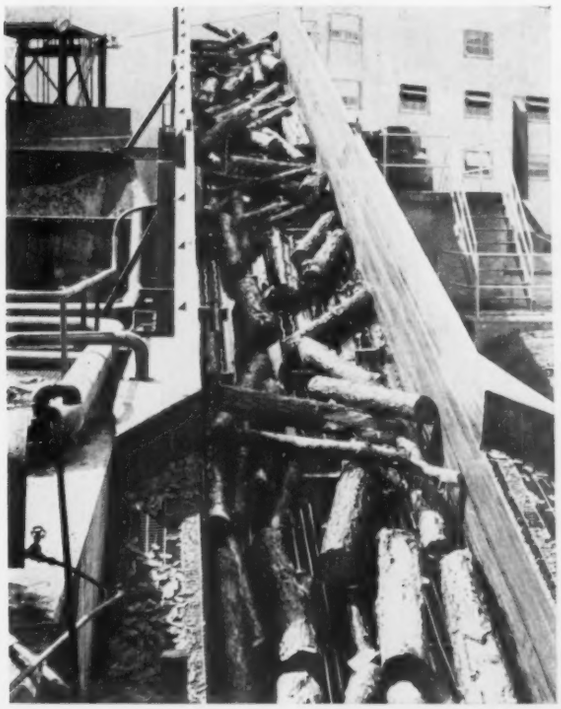
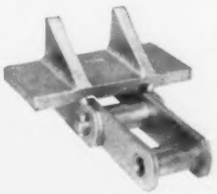
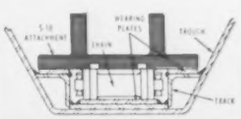
Link-Belt SS bushed chain resists both abuse and abrasion in paper mill service





Attachments absorb impact

S-10 attachment on rugged SS-150+ chain has broad sliding surfaces producing longer wear life for both the track and chain. Impact from logs hitting attachment is absorbed by track rather than chain joint. And for protection against corrosion fatigue, specify cadmium plated pins.



SS-150+ conveyor chain gives 2½ times longer life

In the pulpwood conveying operation shown at left, brutal impact and heavy loads plus severe abrasive and corrosive conditions caused ordinary chain failure after only 6½ months of service. It was replaced with a Link-Belt SS-150+ single-strand inclined conveyor with S-10 attachments which lasted 2½ years.

This comparison points out the advantages that can be obtained by selecting the right chain from the complete Link-Belt line. With its average ultimate strength of 100,000 lbs.—plus hardened pins, bushings, steel sidebars and joint bearing surfaces—the SS-150+ chain is ideal for extremely severe applications.

Long-life design incorporates heat-treated steel sidebars accurately machined for tight press fit with pins, which are locked against rotation. In addition, Link-Belt offers a broad selection of attachments which allow economical adaptation to specific conveying and elevating needs.

Joint surfaces of barking drum chain extra hard

Extra-hard wear surfaces built into the Link-Belt SS-850 bushed chain provide the added durability needed to withstand rough barking drum service. From a combination of design refinements and accurately controlled manufacture comes superior and long wear-life for tough, continuous duty.

This stronger, longer wearing Link-Belt barking drum chain has hardened joint surfaces to resist wear resulting from day-in, day-out service involving heavy shock loads and abrasive conditions. The extra-thick steel sidebars present a greater bearing area and are heat-treated to minimize distortion under impact.

In addition, accurately machined pitch holes in sidebars form a tight press fit with hardened steel pins, which are securely locked against rotation. Hardened steel bushings minimize wear from sprocket teeth.

BARKING DRUM DRIVES at this mill depend on Link-Belt SS-850 chain. Cans mounted above drives (right) drip lubricant onto chain to extend service life and simplify maintenance.

HEADQUARTERS for chains, sprockets and other Link-Belt conveying and mechanical power transmission products is your nearby Link-Belt factory branch store or authorized stock-carrying distributor.

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CHAINS AND SPROCKETS

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.

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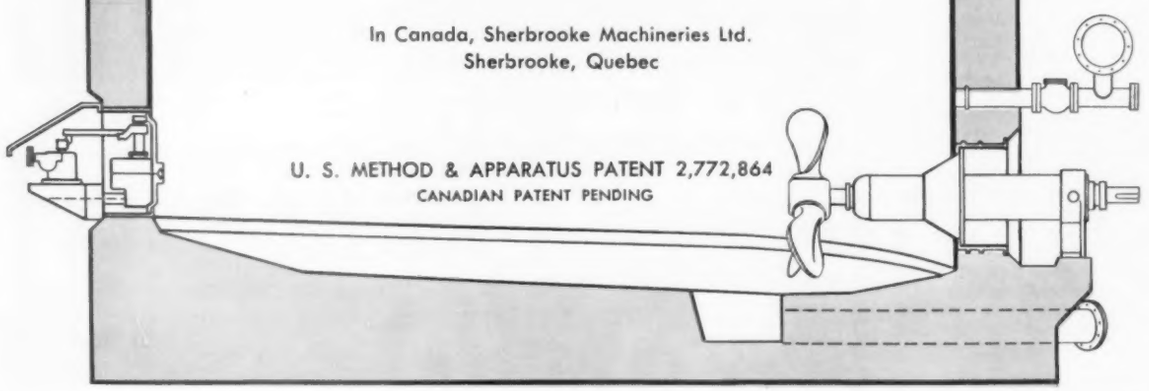

COLORFUL HOUSEHOLD PAPERS

The lady of the house lives in a colorful world. Her clothes, automobile, home furnishings and almost everything she uses have been made more attractive by the modern use of color. To complement these cheerful surroundings, she buys colored facial and bathroom tissues, paper towels and napkins in ever-increasing quantities.

To help you meet this demand, GDC offers below a specially selected range of direct dyes for creating tinted, medium or full shades of color in household papers. These dyes have the advantages of excellent affinity for use without size or alum and compatibility with wet-strength additives.

have you tried ■ YELLOW: Stilbene Yellow 5GXA, Fastusol Yellow GAP Extra, Fastusol Yellow LRRA Conc. CF, Fastusol Yellow RA Extra, Chrysophenine YP ■ PEACH AND FLESH: Benzo Fast Orange WSA-CF, Direct Fast Orange MR Conc. CF ■ PINK: Benzo Fast Scarlet 4BSA-CF, Benzo Fast Scarlet 4BGP-CF, Benzo Fast Scarlet 8BSA Conc. CF ■ ORCHID: Brilliant Benzo Violet BA-CF, Fastusol Violet BBA-CF ■ BLUE: Brilliant Benzo Blue 6BA Extra Conc. CF, Benzo Sky Blue ASP, Benzo Azurine GA Extra CF, Benzo New Blue 5B-CF ■ GREEN: Benzo Green CA-CF, Fastusol Green BA-CF.

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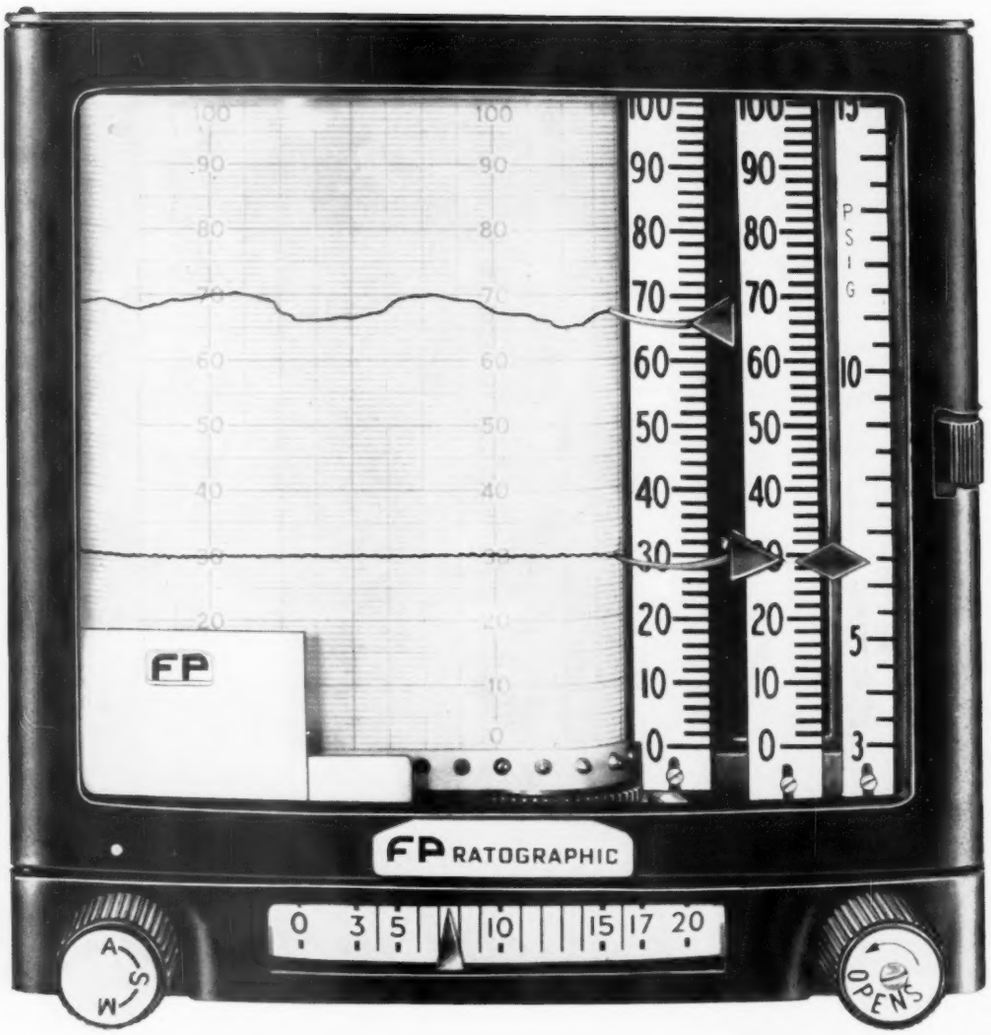

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Illustrated Literature on Request

Catalog 55-20 is a complete, detailed report on the multiple applications, the many options available in F&P Ratographic instruments. Write for it today. No obligation, of course.

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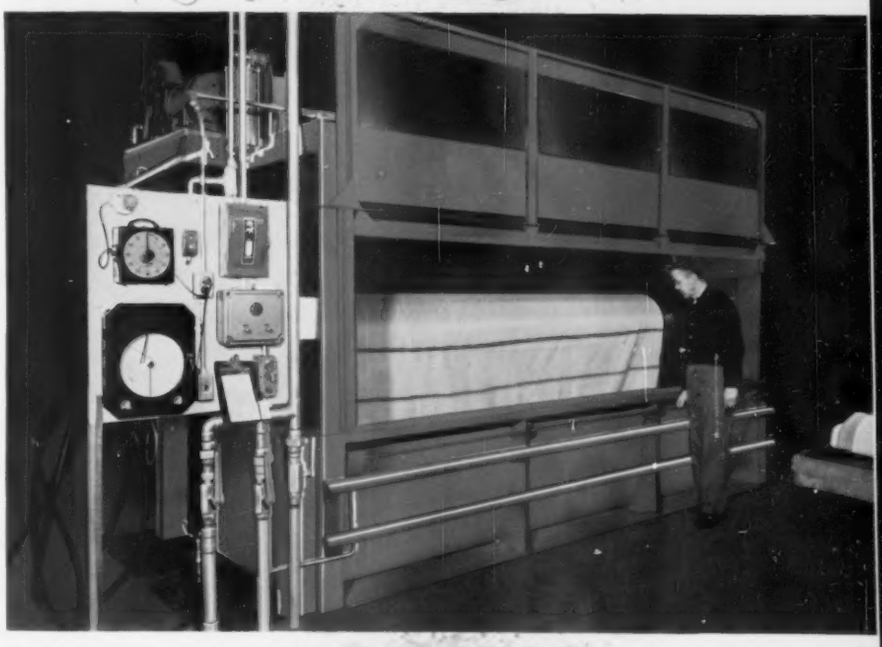
Out go old-fashioned washing methods...

HUYCK USES NEW STAINLESS STEEL WASHERS FOR PRECISION WASHING AND TREATING OF FELTS

Among the modern machine wonders used by Huyck in washing and treating operations are giant stainless steel washers, capable of handling the largest of felts. Precision timing and temperature controls, together with the unmatched cleanliness of stainless steel, provide greater uniformity in treatments... eliminate contamination...and assure thoroughness in washing. Most important, the use of such *advanced* equipment – combined with Huyck's unsurpassed research, design engineering and quality control – means top quality – felt after felt.



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SF announces:

PAPER PULP NOW AIRBORNE IN NEW FLAKT DRYER

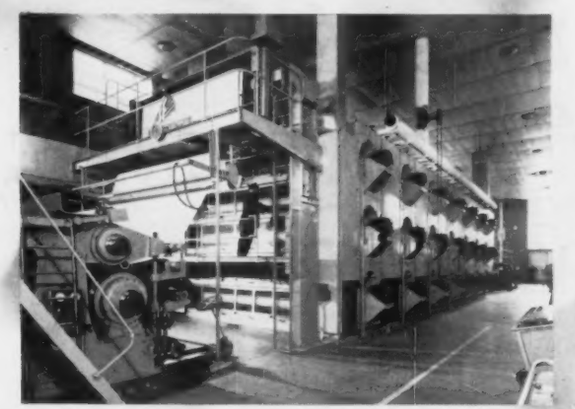
SF Flakt Dryer, Type L, introduces a uniquely advanced concept of paper pulp drying: working with hot air at atmospheric pressure, the type L Flakt Dryer features an *air borne* pulp sheet floating through the dryer without the help of any mechanical conveyor.

NEW: **INCREASED OUTPUT.** The type L Flakt Dryer can be built for larger capacities and higher speeds than earlier models.

NEW: **SMALLER OVER-ALL DIMENSIONS** save valuable floor space. The new air circulation system gives a considerably increased drying effect, thereby reducing the length of the unit.

NEW: **LESS MAINTENANCE.** The absence of a mechanical conveyor system saves man-hours spent on lubrication and maintenance. Expensive production gaps because of conveyor changes are eliminated.

NEW: **AUTOMATIC THREADING,** Flakt Dryer, Type L, can be provided with automatic threading.



SF Flakt Dryer, type L, with 11 decks, designed for drying 110 short tons of pulp per day from 45% BD to 90 BD. Main dimensions: length 55', width 20', height 18'. In operation at Oskarström Sulphite Mills AB, Sweden, since the beginning of 1956.

For further information, please write

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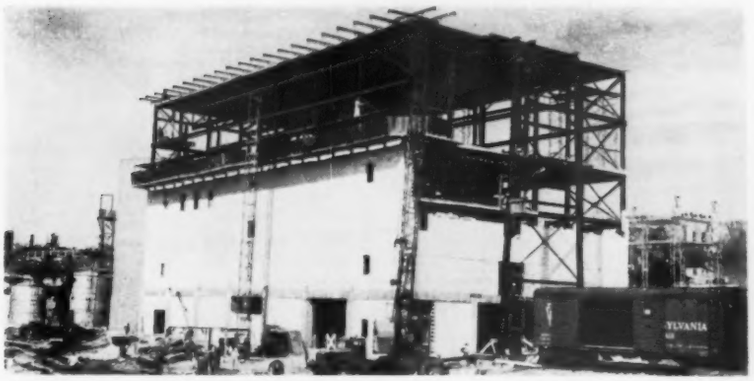


Finch, Pruyn's Neutral Sulfite Mill . . .
". . . a top hardwood fiber–payoff for the best possible equipment."

Progress Report on New Finch, Pruyn Mill

As finishing touches are being put to Finch, Pruyn's new neutral sulfite pulp mill at Glens Falls, N.Y., here is a special progress preview of this newest pulp mill in the Northeast.

The mill is expected to be on stream early this summer (July), reports Technical Director, Dick Osborne. Designed for initial production between 70 to 100 tons a day, Finch, Pruyn hopes to push it up around 140 to 150 tons daily when they really get rolling.

Says Lyman A. Beeman, Jr., assistant to the president, "We are buying the best possible equiqment. We hope that the results will more than pay off in the way of a top hardwood fiber for our printing papers."

New blends of hardwood neutral sulfite and mechanical pulp will produce economically priced papers with best possible printing and converting characteristics. High percentages of neutral sulfite will give whiteness, strength and body. The mechanical pulp percentage will contribute precious opacity and printability at low cost.

Adirondack hardwoods (beech, birch and maple) will be drawn from the company's timberlands in New York.

Bob Whyland, woodlands manager, estimates there are about three million cords of hardwood pulpwood on their own lands. An additional ten million cords also are within 50 miles of Glens Falls on 750,000 acres of private lands. Most of the latter is too poor for sawtimber, ideal for pulpwood, he says.

Hardwood chips will be blown by a Rader pneumatic system from the woodroom to a Stebbins-tiled chip silo. Capacity: one day's production.

The digester (3500 cu. ft. capacity) and the blow tank are both by Graver Tank. Both of these vessels have a 20% 316 ELC stainless steel cladding on their interior surfaces.

Cooking will be similar to the Crossett system (PULP & PAPER, Oct. 1956). Dry soda ash will be unloaded from railroad cars by a Diamond Alkali pneumatic system similar to the one at Great Northern Paper Co.'s Chemiground installation at East Millinocket, Me. (PULP & PAPER, April 1955).

Bleaching will be conventional three-stage: Direct chlorination, caustic and hypochlorite. An innovation will be cleaning after the hypochlorite tower using Bauer Centri-Cleaners.

Refining will consist of two Bauer double-disc refiners in parallel. This stage will be located near the main Taylor instrument control panel for easy access by operators.

All washers and agitators will be furnished by Dorr-Oliver, Inc.

With this new process and a big supply of hardwood forests behind them, Finch, Pruyn anticipates development of better papers, providing foundation for future expansion.

Cosmopolis Mill Starts Making Pulp

One of the few new sulfite mills in recent years, Weyerhaeuser Timber Co.'s 400 ton market pulp mill at Cosmopolis, Wash., started up Mar. 13.

Biggest single project in Weyerhaeuser history, the new Grays Harbor Pulp Division, just five miles east of Rayonier's Hoquiam mill, is only the second mill to employ the magnesium base pulping process from start-up. Ketchikan Pulp was first.

The Cosmopolis mill was constructed in little over a year. Merrill Robinson was construction engineer. His staff and operating staff are mostly young men, averaging about 35 years of age. Joseph C. Brown is manager. The late Gerald F. Alcorn headed engineering in planning stages.

Weyerhaeuser completely revamped its organizational set-up in Grays Harbor and Willapa Harbor areas, completely integrating sawmill and pulp and woods operations. Large logs, small wood and chips will be supplied to Cosmopolis.

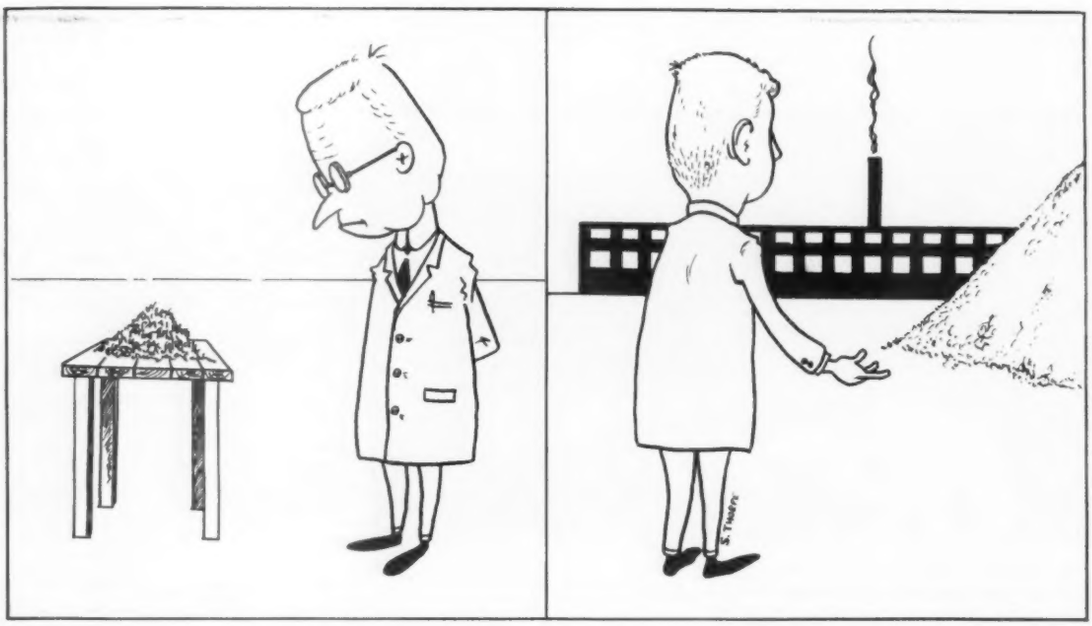
Another "Antioch" near Los Angeles?

Crown Zellerbach is considering a mill in the Los Angeles area similar to the one recently completed at Antioch, Calif., probably bringing pulp via tanker from Canada. The site is on tidewater at Ventura, Calif.

Industry Men Serve In Government Posts

Thomas S. Gates Jr., a director of Scott Paper Co. for 20 years, became secretary of the Navy in the Eisenhower administration Apr. 1. He is on leave of absence without compensation from Scott, as he had been while undersecretary of the Navy.

Morlan J. Grandbois, marketing coordinator for St. Regis Paper Co., and former sales manager for Bryant and Rex Paper Cos. in Kalamazoo, Mich., has joined the U.S. Dept. of Commerce as director of the Forest Products Division of the Business and Defense Services Administration. He is "on loan" for six months from St. Regis, serving without compensation from the government.



It's not the immediate handling problem . . . but the whole mill that's the nut to crack.

Materials Handling—A New Approach

A good man in the field needs to know a good deal more than relative merits of conveyors and lift trucks

By JOSEPH W. SHIMP

Plant Manager, Mobile, Ala., Hollingsworth & Whitney Div., Scott Paper Co.

Excerpts selected by PULP & PAPER from a talk made at a recent meeting of the American Materials Handling Society. Before his recent move to Mobile, Mr. Shimp was vice president and plant manager of Marinette Paper Co., Fort Edward, N.Y., a Scott Paper Co. subsidiary.

● Industrial trucks, belt and bucket conveyors, cranes, roll elevators and palletized loads—yes, even pumping of fluids—stock slurries—are materials handling techniques widely used in the paper field.

I have no intention of launching into a detailed discussion of any of these. I was scared out of that when I read in a recent article, "Industrial trucks may be defined as mobile power-driven equipment operated within the confines of an industrial plant for the systematic mass handling of materials which are required to be carried, lifted, tiered or generally moved about from one location to another."

No, as a representative of paper mill management looking at materials handling, I much prefer to stay with simpler subject material.

Consider the housewife with her market basket on wheels, if you please, at the check-out turntable—and how important an advance that little buggy has been. It is a technique that has contributed to the mass movement of goods for the most important distance in our economy—the last three feet from the shelf to the market basket and subsequently to the paper bag and then to the homes of America. Here's materials handling at its best!

A more interesting example technically is where big stacks of sheeted paper are cut and inspected preparatory to wrapping. I dare say most materials handling men are more interested in the handling of the finished load on a fork truck than in the ingenious little device known as the jet air table that erases human effort at the conveyor location. That flat table contained many little ball bearings, each acting as a valve over a compressed air-loaded diaphragm. As the load rides over the balls, it opened the valves and permitted a low volume, high pressure air film to literally float that 400 to 500 lb. stack of paper.

Handling techniques employed in our great logging operation in the Pacific Northwest would be more striking. There we have developed mobile wide boom cranes that handle logs 5 ft. in diameter and 20 to 30 ft. long—2000, 2500, 3000 bd. ft. at a crack.

I mention these examples because it is my aim to create an awareness in materials handling engineers of the less dramatic but farther reaching concept of "doing things better"—of industrial efficiency.

It's a State of Mind, Says Consultant . . .

Frank Federici of Associated Industrial Consultants in Trenton, N.J., tells

us that: "Industrial efficiency is not only a condition or state of affairs, such as fast, modern equipment or highly skilled personnel, it is also a frame of mind." In fact, true efficiency begins only at the moment we recognize that it definitely requires two kinds of intelligence to be efficient.

The first intelligence required is subjective. This is where we face a problem and find an answer to it, or face a job and do it. Perhaps not the very best way that it could have been done, but seemingly the best possible way under the conditions it was accomplished.

The primary effort was to get it done somehow, but get it done. Unfortunately, this is where most constructive effort ends—and it is all too often the point of ruin of the materials handling specialist.

The second type of intelligence necessary is objective intelligence. This is the ability to stand back and critically examine what has been done. This examination should not be hampered by the necessity of doing several other things at the same time but, rather, should be the concentrated analytical questioning of every phase and every motion of how and why the job was set up in the first place. For example, it should include those elementary questions keyed to methods improvement: Can the operation or the movement be eliminated altogether? Can it be simplified? Can it be combined with other phases, or can the sequence be changed to advantage?

It is in the exercise of this objective intelligence where most companies and most people fail. They fail not because they aren't intelligent enough; not because they are not capable; but primarily because they cannot divorce themselves from the necessity and the practice of using only their subjective intelligence, which is necessary, the major part of the time, to carry on the routine every day activities of getting the basic job done.

Where Companies and Engineer Fail . . .

Many people recognize either clearly or vaguely that objective analysis is required, but won't admit that they can't do it. Frequently the very intelligence that admits improvement is necessary and possible, is the same intelligence that paradoxically resists objective scrutiny of its work.

The paper mill management that I represent is looking at materials handling as an area of activity normally far too much confined in scope for the maximum good of industry. Whether we use conveyors or trucks for the

Says Joe Shimp— "It's No Trick—

To calculate optimum roll diameter" for most efficient r.r. car loading—"materials handling men often think that's the only problem—"

job at hand is not the most important concept. Rather, we need—you need—to develop a basic atmosphere within your organization of "happy dissatisfaction" with things as they are. We need to develop the kind of fresh thinking that came to the fore in the case of the buildings and grounds superintendent faced with reducing his costs of paper towel consumption. Signs, instructions, pleas and demands were of no avail—but he finally licked the situation with a fresh approach. He raised the towel holder two feet up the wall—and from that point on the customer either shook off the excess water from his hands before reaching for the towel or the water ran up to his elbow. Some of the higher sounding textbooks may call this "motivation."

The materials handling concept that our paper mill management is looking for is one that should be prepared to broaden itself even to include materials in process—to methods improvement—not only of the mass movement of large loads of goods—but to the elementary work simplification techniques which a good industrial engineer uses so effectively.

Need Industrial Engineer's Approach . . .

At the risk of alienating any affections I may have thus far developed, let me button it all up by saying that in my judgment materials handling is an area of activity that can function most effectively when it employs the industrial engineer's approach of doing things better—yes, even the little things. In a typical Scott mill, we produce thousands of cases daily of toilet tissue, household towels, waxed paper, facial tissues and napkins and handle thousands of individual rolls of toilet tissue, towels, and wax paper —at least once through the process. Here's mass movement of goods—and not a truck load at a time either. What a challenge we have to develop improved finishing techniques and automatic inspection of a humble 10 to 20 cent household item. Our operation is clean, modern, efficient. Yet think how much better it can be with thought—questioning—a fresh approach—constant probing on all fronts. I venture your own businesses are in the same boat—if you will but pause long enough to see it.

"Whole Mill is Nut to Crack" . . .

In an effort to open new vistas for our organization, we pound away constantly at developing the concept that in addition to the "daily team of production, technical control, and engineering," three other division heads are properly assistants to the plant manager—the plant accountant, the personnel manager and the industrial engineer. These three may strike you as strange bedfellows, but the whole mill is their nut to crack. Certainly the problem of costs is everywhere—labor, material, maintenance dollars, etc. The problem of people is mill-wide and the need for "doing things better"—the need for "industrial efficiency"—is mill-wide. So the industrial engineer has the while mill as his scope of activity—as a truly effective assistant to the mill manager.

As paper mill management looking at materials handling, our plea to the materials handling man is to broaden his framework of effectiveness beyond the concept of the pallet, the conveyor, the truck—and to encourage that "happy dissatisfaction" to which I referred.

It has been said that the tripod of a successful business are the three legs of Quality, Quantity, and Costs. I'd like to amend that a bit to "Quality, Quantity, and Costs on a broad base of people." Certainly if the materials handling man is to grow in stature beyond "the choice of a fork truck," he must start a "reaching out" process of self-identification with the broad problems of a plant; a self-identification with the broad problems of plant management.

It is not enough to know that a truck of "X" pounds capacity will do the job of transporting skids of parent rolls of napkin stock from the paper machine to the finishing department. Rather, he must dare to consider the production implications of even larger sized rolls, the waste implications of roll damage; the quality implications of rotated inventory, and the human implications of handling larger rolls by the operators.

Even as the plant accountant is the

comptroller of the business and keeps aware of all the detailed approaches to operation costs, so must the good materials handling man broaden himself to comprehend the major cost factors of the plant as he can influence them. Yes, the pulp and paper industry does handle bulky, relatively low cost material in the form of wood, baled pulp, parent rolls and skid loads—but in process, our mills, for example, also handle individual rolls of toilet tissue, and individual boxes of paper napkins. The cost implications of these small item processings is just as important—even more so, in fact—than the more dramatic and impressive handling problems that appear on the surface.

And so, my plea to materials handling men is to broaden your scope. Broaden your framework of effectiveness by reaching out into all those areas of work simplification that need attention. It's no great trick to calculate the optimum roll diameter required to come up with the maximum weight of parent rolls in a freight car or truck of given dimensions—if that were the only problem (the materials handling man often thinks it is).

But it's far more valuable to have a materials handling man who is willing and able to delve back into the operation to determine the additional impact of roll size—on quality factors encountered as we move up in size and possibly get into drive or inertia limitations of certain wind or unwind stands—on production factors like reduced lost time in producing fewer paper machine reel changes—on manpower factors in getting the roll to or from the machines in the first place.

Yes, even human responses, that may need a real warm sale to convince the operator that "this can be done—safely, effectively."

A Case History about "Cases" . . .

Let me add—all this won't be easy either. We had an interesting little experience in cost reduction in one of our smaller mills where the coming year's cost planning fell short of the challenge by about $75,000—it amounted to 5 cents a case on the paper product produced there. Local management was adamant that "it couldn't be done." A very able vice president in our top management group made it real easy for the local management to change its mind. He said: "We need the $75,000 and you can get it from any one of a combination of three places:

A. Up the anticipated volume output to absorb those dollars needed;

B. Reduce waste levels; or

C. Lay off 15 or 20 people. (And he began to name a few names.)

"While I go out in the plant to look around," said the V.P., "you can figure how it's to be done. I'll be back in 30 minutes."

So they budgeted the $75,000—or 5 cents a case—"out" on the waste front. And the moral of the story came the next night after a dinner meeting when the new budget challenge was reviewed by local management with department heads and foremen. They went through all the details, answered various questions, etc.

"Now everyone stand up—lift up your chair and tell me what you find," directed the production manager.

There was a nickel scotch-taped to the underside of each chair. The production manager scored his point when he explained—"And the moral is that you're going to have to get off of your tail to find that nickel."

The challenge that faces the good aggressive materials handling specialist today is a similar one.

Brunswick Donates Land

Brunswick Pulp & Paper Co. has donated 100 acres in Camden County, Ga., to the Episcopal Diocese of Georgia for a youth camp and conference center.

Representative Pulp and Paper Companies Sales and Earnings – 1956

	Net Sales (000)	Income Bef. Taxes (000)	% of Sales	Net Income (000)	Net Per Share
MARKET PULP (Also Lumber, etc.)					
Brown Co. (11/30)	$ 59,683	$ 4,571	7.7%	$ 2,611	$1.01
Puget Sound Pulp & Timber	24,141	6,336	26.2	3,113	1.33
Rayonier, Inc.	137,873	25,119	18.2	13,969	2.65
MacMillan & Bloedel (9/30)	176,001	35,527	20.2	18,686	3.56
Weyerhaeuser Timber	324,129	77,047	23.8	51,447	2.06
NORTHERN INTEGRATED COS.:					
Abitibi Power & Paper	132,498	31,013	23.4	15,424	3.56
Consol. Water Power & Paper	70,067	15,833	22.6	7,298	2.87
Diamond Match	133,716	16,234	12.1	8,934	3.04
Eastern Corp.	26,567	3,200	12.0	1,650	4.22
Glatfelter, P. H.	21,135	5,030	23.8	2,278	6.23
Great Northern Paper	67,097	11,232	16.7	5,972	5.44
Hammermill Paper	49,195	8,239	16.7	4,439	4.04
KVP (9/30)	55,611	7,427	13.3	3,677	4.47
Oxford Paper	61,689	9,644	15.6	4,644	5.43
Warren, S. D.	64,186	9,616	15.0	4,671	4.31
INTEGRATED—NORTH & SOUTH					
Champion Paper & Fibre (12 mos. ended 12/31/56)	167,926	30,770	18.3	14,521	3.97
Crown Zellerbach	462,350	83,481	18.0	50,048	3.53
Hudson Pulp & Paper (8/31)	55,527	7,197	13.0	3,514	2.44
International Paper	969,618	174,635	18.0	86,628	7.05
Kimberly-Clark (12 mos. ended 1/31/57)	281,233	44,576	15.8	22,650	2.92
Marathon (10/31)	152,886	20,172	13.2	9,122	2.53
Riegel Paper	57,364	n.a.	—	3,441	2.95
Scott Paper	270,311	42,956	15.9	22,356	2.78
St. Regis Paper	330,566	46,742	14.1	22,502	3.15
W. Va. Pulp & Paper (10/31)	187,621	31,731	16.9	16,331	3.19
SOUTHERN PAPER & BOARD COS.:					
Southland Paper Mills	24,086	7,398	30.7	3,718	8.28
Union Bag-Camp Paper	163,059	43,945	26.9	21,545	3.02
PAPERBOARD COS.—NORTH & SOUTH:					
Container Corp. of America	276,009	37,931	13.7	18,231	1.71
NON-INTEGRATED PAPER COS.:					
American Writing Paper	16,086	1,746	10.8	828	3.06
Sutherland Paper	64,693	n.a.	—	4,112	3.85
CONVERTER:					
Dennison Mfg.	42,810	5,732	13.4	2,817	4.50

Year ended December 31, 1956, except where another year-end date is shown after the name of the company in left column. Sales and income figures are in thousands of dollars. (Prepared for PULP & PAPER by Cyrus J. Lawrence & Sons, members New York Stock Exchange, from statistical services and published reports. While the figures are believed to be correct, no guarantee is given as to their accuracy.)

P&P's New Products Tour of NPTA Meeting

Good barometer of industry activity is the annual National Paper Trade Assn. meeting at the Waldorf-Astoria in New York City each March, a month after Paper Week.

PULP & PAPER, following up on its Paper Week Report theme that new products are keys to the industry's future, made a "What's New" tour of the exhibits. Here are some highlights:

A new product by Royal Lace Corp. (subsidiary of Eastern Corp), is Bug-Ban, an insecticide-impregnated paper. Introduced last year, it has become the largest seller, percentage-wise, for Royal. It is now produced in rolls and sheet and printed patterns. Bug-Ban reportedly kills roaches, bugs, ants, silverfish, is nontoxic to humans. Largest sale is in the South and in camps.

Another Royal product is paper bath mats now coming into greater use in motels.

Sherman Paper Products introduces Spot-Seal, a new packaging development, cold sealing with Spot-Sealing. Says Sherman, it replaces old fashioned kraft tubing, tissue or bags. Spot-Seal sticks to nothing (except itself), gives abrasion protection to delicate surfaces, is dust-proof, water resistant, tamperproof and fast to apply.

Another Sherman product is Sherm-A-Pak, permanently crimped, forged fibers for live cushioning in packaging.

Brown Co. has a new line of toweling improved as to color because of its new Day-Kesting chlorine dioxide process bleach plant. Brown's natural color toweling has also been improved as to crepe, softness and bulk.

Golden Rule Offset is a new grade produced by Oxford Paper Co., of special value in school textbooks, an offset that will take 4-color work and designed to lay flat when the book is open.

Sealright Corp.'s display featured partially translucent plastic-coated paper measuring cups for hospital use.

New at Riegel Paper Corp. is weatherproof bristol and the Riegel-Wrap line.

The trading stamp craze is big business for Dennison Papers which supplies safety paper base stock for this product. Dennison thermoplastic Heat-Seal Quad-Stayers offer a big potential as more box makers are getting interested in it.

New at Royal Paper are creped kraft paper slippers for motels, athletic clubs and country clubs. Lily Tulip Cup's Cookout Cupboard is a packaged display unit which contains cups, hot and cold plates—all paper of course. Lily is also marketing a home cup dispenser (retails at 59c) with 30 cups.

Scott Paper Co. proudly displayed its new Scott UHA (ultra high absorbency) towel. Features: 55% more surface area for better drying, softer, more comfortable; doesn't tear in use, wet or dry; doesn't lint even on toughest beards (this one we'll have to try) and more bulk.

Concluded one exhibit tourist, "This is the biggest crowd on the biggest, briskest buying spree I've ever seen."

Experimental Machine Has "Everything" on It

In the Development Laboratory, Central Research Dept., Crown Zellerbach Corp., Camas, Wash., is an experimental paper machine built by Tidland Machine Co. at Camas. It is the end result of long planning by Dr. W. W. Moyer, director of research, who wanted a small machine to duplicate the work of the mill's big machines.

Complete in every detail, with a Yankee dryer, a size press, 13 dryers and a seven-roll calender, the 24-in. machine produces all types of paper from tissue to board at speeds up to 250 fpm.

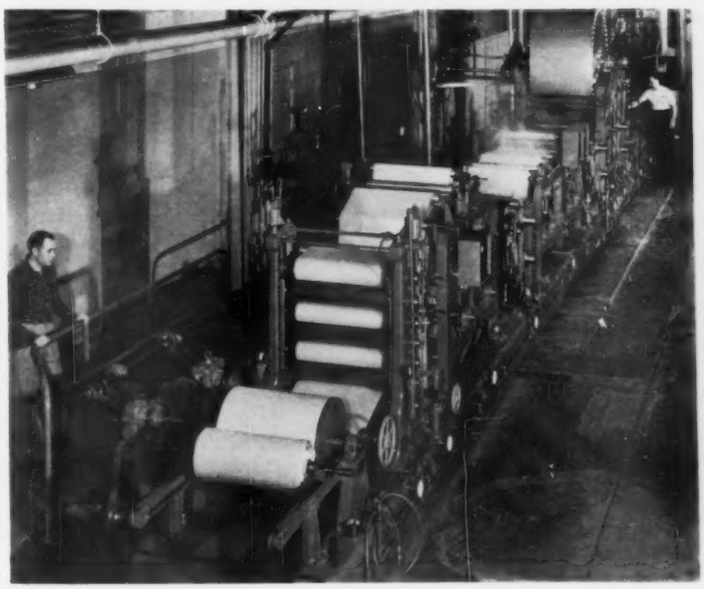
It was rebuilt from a small machine purchased several years ago at Chico, Calif. The original Fourdrinier and nine small dryers are the only parts used from original equipment, built in 1911 to manufacture paper from rice straw. Tidland engineers, under Willis D. Smith, designed new frames, press rolls, four new dryers and drive stand mechanism.

Including headbox, the overall length of the foundation is 54 ft. 6 in., 18 ft. longer than the original machine. The overall width of machine frame and drive is about 8 ft.

A 15 hp. variable speed d.c. motor with a range of 100 to 2190 rpm. powers the line shaft drive. The motor operates off a 550 volt generator plant. The power sequence includes variable pitch sheaves, clutches and gear reducers.

The Yankee dryer, the only machine part built outside of the Tidland plant, was supplied by Beloit Iron Works. SKF and Shafer anti-friction bearings are used on all dryers, press rolls and journals with the exception of the felt rolls which have graphite sleeve type bearings. Sheehan back tender rings and ropes carry the sheet. Automatic wire and semi-automatic felt guides are used. All presses are equipped with doctor blades as well as the first three dryers in the dryer sections. The Yankee has an oscillating creping doctor and oscillating cleaning doctor blade.

A host of papers that can be made include M.F. and M.G. papers, creped tissues and toweling, book, news, bag, specialty paper, corrugating medium and heavy board stock.



Little, but Oh My . . .
Crown Zellerbach's Development Laboratory, Central Research Dept., at Camas, Wash., now boasts this experimental paper machine, built by Tidland Machine Co. to produce all types of papers and board stocks at speeds up to 250 fpm.

Speakers and Scenery . . .
Stars of Engineering Conference seen against a backdrop of the Georgia Tech campus (l to r): V. S. OAKES, Hammermill; C. A. FLETCHINGER, International Paper, Pine Bluff; C. H. HUDSON, General Electric, Atlanta, who presided at one session, in front of new Tech library; V. F. DUGAR, Reliance Electric and Engineering, and JOHN STEPHENS, Champion, stop for chat at Tech's research laboratories; E. H. OVERBY, Union Bag; W. M. EMMONS, Westinghouse, B. K. STURGIS, ITE Co., and M. J. OSBORNE, Bowaters Southern Paper Corp., members of switchgear application panel, at new Textile Building.

A Staff Report

Engineering Conference in Atlanta . . .

- How Champion maintains electrical equipment
- Cathodic protection prevents corrosion
- Initial results of conduit tests at Hammermill
- New drafting method saves time and money

● Important aid to a good maintenance program is keeping proper records on each piece of equipment and careful, detailed accounts of all breakdowns.

That's what they believe and practice at Champion Paper & Fibre's Canton, N. C., mill, where electronic maintenanee is carefully carried out. A record card is kept on every piece of equipment and maintenance is divided into two phases: First, trouble-shooting on equipment not working correctly; second, preventive maintenance to make sure malfunctions are as rare as possible.

Electronic equipment at Champion is divided into three groups: Power, control and instruments. When a breakdown occurs, repairs are made immediately and cause for the malfunction carefully analyzed. A detailed account is entered on a permanent record card for that piece of apparatus. But equipment undergoes constant inspection designed to uncover and correct trouble spots before they can happen.

John R. Stephens, electrical engineer at the big North Carolina mill, disclosed Champion's slick-working program to a Pulp and Paper Engineering Conference in late March at Institute of Technology in Atlanta, Ga. The meeting was sponsored by the pulp and paper subcommittee of the American Institute of Electrical Engineers.

Basic Rules For Maintenance . . .

At Canton, Mr. Stephens has laid down some basic rules for good maintenance:

1. If the condition of the electronic component is doubtful, destroy it.
2. Do not attempt to repair electronic components such as transformers, sockets, etc.
3. Do not use any tube in a socket other than the one for which it is numbered.
4. Destroy any tube that has been replaced.
5. Use machine downtime to replace any doubtful components such as resistor and paper capacitors since they are inexpensive.
6. Use ruggedized tubes in all high-gain stages and in any other place where standard grade tubes prove incapable.
7. Learn the circuit. Simplify where possible. A slight sacrifice in performance or versatility sometimes pays off big dividends in maintenance.
8. Make all adjustments as recommended by the factory.

Some Other Essentials . . .

Other fundamentals which Mr. Stephens suggests must be observed:

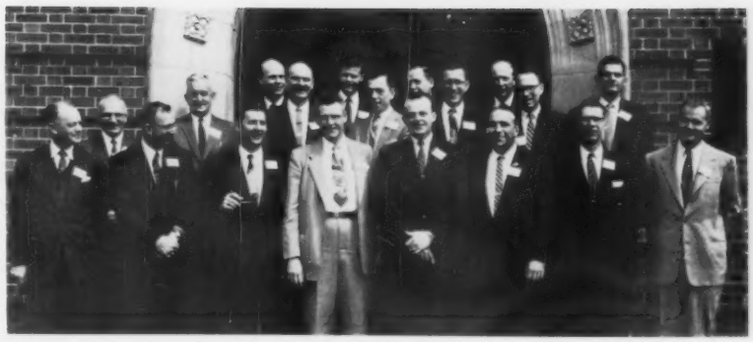
New Conference a Success

William F. Diehl Jr., Southern Editor for PULP & PAPER, was working on familiar ground—the Georgia Tech campus—in bringing this special report to you of new Pulp and Paper Engineering Conference which will be an annual event. Bill Diehl's home and office are in Atlanta, also the home of Georgia Tech, and he has covered many events there.

More than 140 pulp and paper engineers and associates in the industry turned out for this new conference, twice as many as were expected. It now promises to be an annual event, and probably will be held again next year at Georgia Tech.

Full understanding of equipment involved, backed up by technical help from manufacturer; adequate inventory of replacement parts developed from recommendations of manufacturer and experience of user; knowledge of problems peculiar to an individual mill and how to solve them; available source of metering and test equipment properly selected to be of the greatest value when used.

He suggested an open mind be kept to any and all circuit and equipment improvements.



Sponsors of Meeting . . .
This is Pulp and Paper Committee of American Institute of Electrical Engineers, who sponsored Atlanta meeting.

Controlling Corrosion . . .

Widespread recognition of cathodic-protection as a means for controlling corrosion on all types of buried and submerged metal structures has directed increased interest toward its application in mills. Although it is not uncommon to find mills spending thousands of dollars every year because of corrosion problems, much of this waste can be eliminated by the proper use of cathodic protection principles.

So said Joseph A. Lehmann, division engineer for the Electro Rust Proofing Corp. of Belleville, N.J., just outside Newark. Corrosion, explained Mr. Lehmann, always takes place at the anode, that point at which current leaves a metal surface and enters an electrolyte. Corrosion is not experienced at the cathode, the point where current is collected on metal surfaces from the electrolyte. Anodes and cathodes can also occur on a single type metal due to variations in environment and the metal itself. Example: When a pipe line crosses alternately wet and dry soils, the steel surfaces in the wet areas become anodic to those surfaces in the dry areas. Result: Corrosion, even though the same metal is used throughout the system.

Other variables which can produce corrosion: Variations in oxygen concentration; differences in soil and water concentrations; temperature variations; velocity variations in flowing liquids.

Any metal surface can be cathodically protected, said Mr. Lehmann, by coupling it with a metal more electronegative than itself. (For example, zinc, aluminum and magnesium may be readily used to protect such metals as steel, lead and copper.)

Mr. Lehmann said tests may ultimately reveal practical cathodic methods for retarding or preventing corrosion on Fourdrinier wires, screens, cylinder mold wires, pulp washer vats, digesters, etc.

Getting Meeting Underway . . .
Presiding member G. I. BURNER, of Rust Engineering, gets some pertinent data from Tech's acting president, DR. PAUL WEBER, before introducing the institute's top man.

Maintenance Suggestions . . .

International Paper Co.'s C. A. Fletchinger, electrical engineer at IP's new Pine Bluff, Ark., newsprint mill, had some things to say, too, about maintenance. A well designed electrical system which is kept flexible will give good service at a minimum cost over the years, he said, but only if a very good preventive maintenance program is established. Minor additions or alterations must be engineered, not added in a haphazard manner.

If at all possible, said Mr. Fletchinger, problems involving crowded electricenters, overloaded equipment, should be anticipated and solved long before they reach the crisis stage. When they become critical, costs multiply and down time is inevitable.

These, Too, Were Highlights . . .

Exhaustive tests were performed during the past year at Hammermill Paper Co. in Erie, Pa., of various types of conduits for use in pulp and paper mills. V. S. Oakes, of Hammermill's engineering dept., reported to last year's conference that a conduit for mills which would meet all requirements (i.e., low initial cost, complete immunity to chemical attack, easy handling qualities, relatively high strength and infinitely long life) was just not available.

Tests, however, were performed on the following: Aluminum, black enamel, metalized-galvanized, sheradized conduit with an extra coating of acid-resistant enamel (superduct) and hot-dipped galvanized conduits. A test board containing these conduits was placed in an area so it would be subjected to various acids of sulfur.

After a year and four months of exposure, severe corrosion was prevalent on two zinc protected conduits, the metalized-galvanized and the hot-dipped galvanized conduits. There was some attack on the exposed surfaces of the black enamel and plastic-coated sheradized apparatus. The aluminum conduit was almost in the same condition as when installed. Mr. Oakes said his findings should not be considered final and are continuing.

J. C. Taylor, Westinghouse Corp., Youngwood, Pa., displayed a series of slides which showed that in most applications of a-c or d-c power conversion, silicon rectifiers indicated a decided advantage over other conversion means.

The combination of templates and photography as an aid in drafting was described by Reliance Electric and Engineering's V.C. Dugar. Some advantages: Checks for accuracy are kept to a minimum; a device need only be identified, not checked in detail; the draftsman is relieved of monotonous and repetitious drafting of detailed components; about 35% of the time has been shaved from former drafting methods. A library of 3,000 to 4,000 templates, said Mr. Dugar, represents an investment of $3,000 to $4,000—but it is quickly written off, through usage, in about a month.

Importance of good lighting in plants was stressed, by Donald R. Phillips, of General Electric, Nela Park, O.

WHAT MANAGERS SHOULD DO

As suggested by union execs

1. Mill safety committee inspect plant at least once monthly.
2. All safety personnel in mill wear distinguishing insignia.
3. Provide instructions and orientation concerning new machinery.
4. Eliminate safety meeting interruptions.
5. Place same emphasis on plant safety as on costs and production.
6. Eliminate stress and strain by making employes feel at ease.
7. Look for accident causes rather than someone to blame.
8. Pick proper employes and provide good on-job training.
9. Don't spread supervisors over too many machines.
10. Encourage employes to report on what they consider unsafe practices.
11. Try psychology to further safety program.
12. Act jointly with unions to determine penalties for safety violations.

WHAT UNIONS SHOULD DO

As suggested by management

1. Each local provide formalized safety-school instruction for safety committeemen.
2. Develop communications for such information as "doctor cases" and disciplinary action to reach general membership.
3. Provide safety men with badges.
4. Keep politics out of selection of delegates to outside safety conferences.
5. Locals select own safety committeemen, chosen with care.
6. Post names, duties and responsibilities of committeemen.
7. Union officers and members discourage unsafe antics.
8. Practice more militancy in processing grievances involving safety.
9. Show greater cooperative acceptance in correcting unsafe practices by disciplinary action.
10. Local give support to community safety programs.
11. Feature safety in at least one union meeting each month (a union man suggested this).

How to Make a Good Safety Program Better

No voices were raised as managers told labor . . . and labor told management . . .

These suggestions were highlights of a panel discussion that wound up the annual Oregon State Pulp and Paper Safety Conference, in Portland, Ore., Feb. 28-Mar. 1. Management members told labor how it might improve safety, and vice versa. Some speakers got off base and told what their own associates ought to do.

The session was devoid of accusations. Not a voice was raised unless you count one gentleman who got too close to the microphone.

Labor and management leaders on the Pacific Coast are jointly striving to break through the 9.68-6.04 "frequency plateau" on which they have operated since 1950.

The cooperative program dropped the frequency rate of member West Coast mills from 36 injuries per million man-hours in early 1946 to 15

PACIFIC COAST ASSOCIATION PULP & PAPER MANUFACTURERS
11th ANNUAL Safety LABOR MANAGEMENT CONFERENCE
STATE OF OREGON
SHERMAN

Panel in Unusual Management-Union Discussion

(L to r) JOHN SHERMAN, vice pres., International Brotherhood of Pulp, Sulphite & Paper Mill Workers, R. S. WERTHEIMER, vice pres.-res. mgr., Longview Fibre Co., A. W. HANNAFORD, international representative, International Brotherhood of Paper Makers, S. W. GRIMES, managing director, Pacific Coast Assn. of Pulp & Paper Manufacturers, and Moderator J. O. JULSON, mill manager, Pulp Div., Weyerhaeuser Timber Co., Springfield, Ore.

For Jobs Well Done

S. J. ROBINSON (left), vice pres.-gen. mgr. of Publishers' Paper Co., stressed importance of cooperative in-plant safety program; GEORGE LAHUSEN, general safety supervisor of Crown Zellerbach Corp., served as general chairman.

in approximately 30 months. The decline continued at a more moderate rate through 1949-50, bringing lost-time injury frequency to slightly less than 9.7.

But reductions have averaged barely more than half a point annually for the past six years. Consensus of participants is that an "indefinable something" is needed to "break through" the current low of 6.04.

The subject for the panel was "Why This Plateau?"

The 11th Joint Labor-Management Safety Conference program concluded a series of three state meetings with the Oregon sessions at Portland. Each drew a record attendance—190 people at Los Angeles, 374 at the Washington meeting in Seattle, and 203 in Portland.

The Pulp Division, Weyerhaeuser Timber Co., Springfield branch, won Oregon's five-year safety award for the second year in a row. The Springfield mill's 1952-56 frequency is 7.11.

Fishing Trip? No . . . a Safety Meeting
(L to r) J. W. BOECKH, asst. vice pres., Sears Bank and Trust Co., Chicago, ALFRED J. JOHNSON, boat owner, timber operator, Ranier, Minn., RUSS HAMMOND, accident prevention engineer, Employers Mutuals, Duluth, Minn., E. LAITALA, forestry dept., Minnesota and Ontario Paper Co., International Falls, Minn., SULO SIHVONEN, forest mgr., Crossett Co., Crossett, Ark., and D. L. EISENACH, Mando's safety director, travel by boat to safety meeting at isolated pulpwood camp on Lake of the Woods, Minn. In winter they go to meetings on snowshoes. (Picture by Employers Mutuals of Wausau.)

PULP & PAPER Receives Safety Award

PULP & PAPER is one of only 13 business or specialized magazines to be honored by the National Safety Council with its 1956 Public Interest Award.

The Lumberman, which like PULP & PAPER is a Miller Freeman Publication, also was a recipient for 1956, chosen from among business and specialized magazines which are estimated today to number over 2,000.

The noncompetitive award is made annually to public information media for exceptional service to safety.

The 1956 award went to 28 daily and 13 weekly newspapers, 117 radio and 38 television stations, one television and two radio networks, 13 general circulation and 33 specialized magazines, 40 advertisers, 23 outdoor and two transportation advertising companies, and three transit systems.

"A review of these 1956 Public Interest Award entries shows beyond question the tremendous contribution of mass communication media to the safety movement," said Ned H. Dearborn, Council president. "We are proud to honor the outstanding leadership represented by these awards."

Judges of the award were George A. Brandenburg, Chicago editor of *Editor & Publisher;* Robert R. Burton, vice president, Needham, Louis and Brorby, Inc.; Hugh Curtis, editor, *Better Homes & Gardens;* Norman Damon, vice president, Automotive Safety Foundation; Fred Carrigus, manager of organizational services, National Association of Radio and Television Broadcasters; Wesley I. Nunn, advertising manager, Standard Oil Co. (Ind.); Dr. Kenneth E. Olson, dean of the Medill School of Journalism, Northwestern University, and Larry Wolters, radio and television editor, *Chicago Tribune*.

NATIONAL SAFETY COUNCIL

425 NO. MICHIGAN AVE.
CHICAGO 11, ILLINOIS

April 2, 1957

Mr. Albert W. Wilson, Editor
Pulp & Paper
1791 Howard Street
Chicago 26, Illinois

Dear Mr. Wilson:

Congratulations!

It is a real pleasure for me to inform you that your organization has been voted the National Safety Council's Public Interest Award for 1956.

We here at the Council have been well aware of all you have been doing for safety, and we are delighted that the judges agreed.

I am sure you feel, as we do, that there is another, less tangible result of your safety efforts -- the knowledge that you have helped prevent many accidents.

Many thanks for your splendid support.

Sincerely,

Ned H. Dearborn

Ned H. Dearborn
President

NHD:A
Enc.

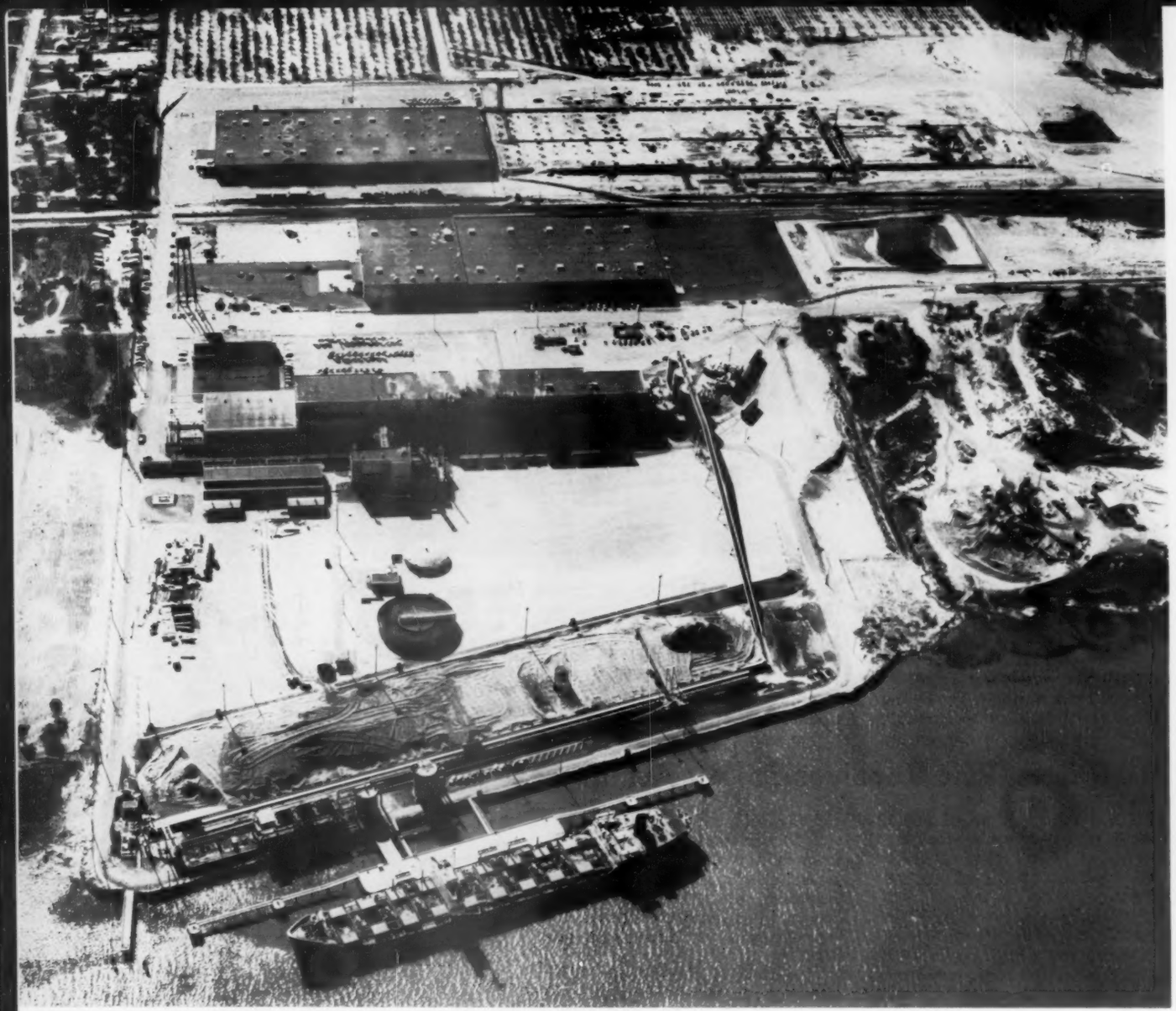
Congratulation . . .
Facsimile of letter from National Safety Council informing PULP & PAPER of "Public Interest" award.

Second Industry Seminar Institute of Paper Chemistry

The Second Industry Seminar to be conducted by Institute of Paper Chemistry, Appleton Wis., June 16 through July 11, is designed to give men in the industry increased understanding of scientific, technical, economic and human developments, and their place in company growth.

A general theme, "Water-Derived Problems of the Pulp and Paper Industry," will embrace water supply, wood growth, plant physiology, pulping, beating, refining, bleaching, converting, formation, draining, drying, additives and waste disposal.

A maximum of 25 participants, representing as many companies and widely scattered geographic areas, will reside together in adjacent Lawrence College fraternity houses.



Future "Camas of California" from the Air

SPECIAL PULP & PAPER FIELD REPORT

New Industrial Philosophy = New Mill

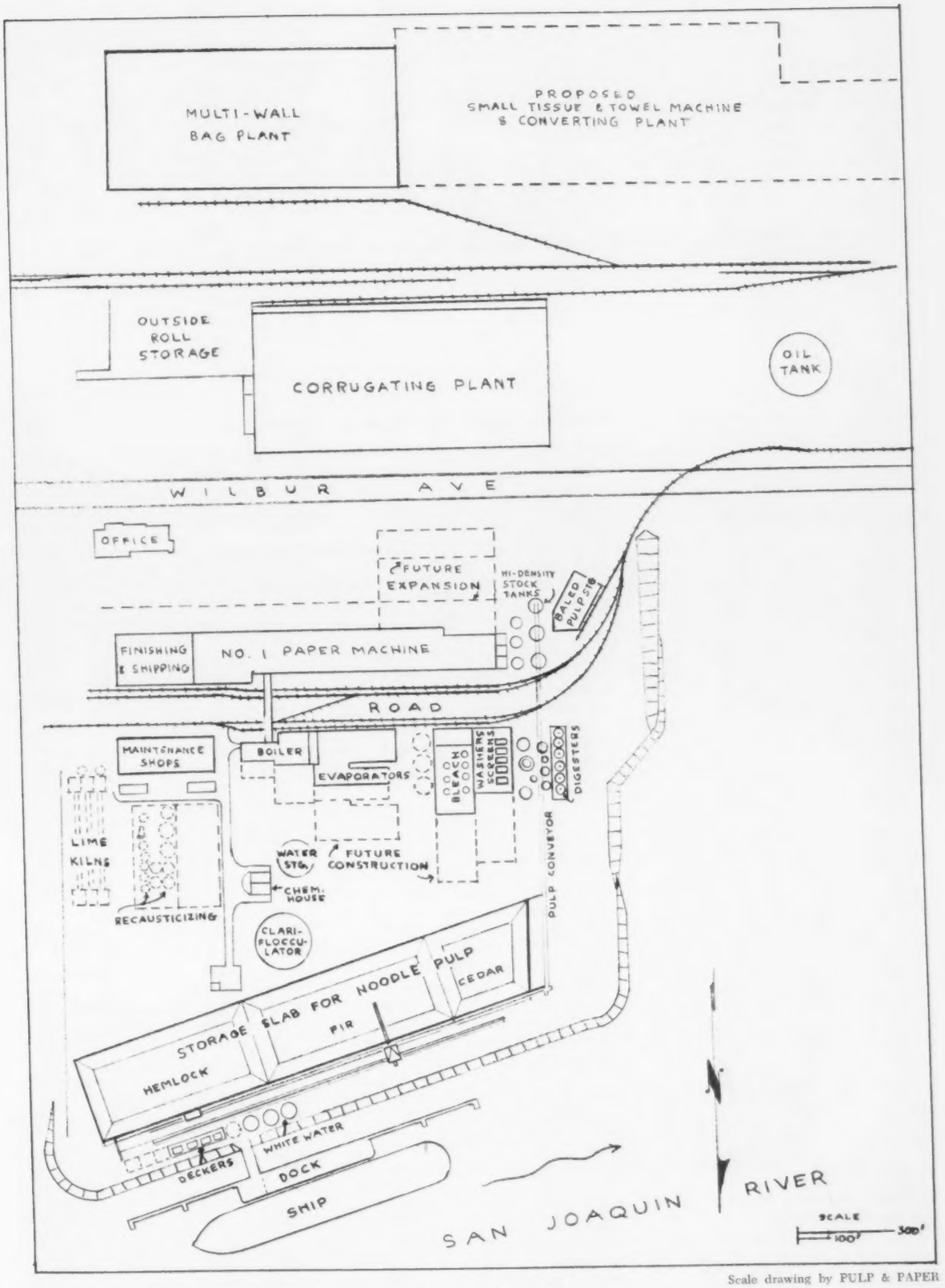
How planners and engineers created CZ Antioch mill which may pave way for other paper centers far from woods

● The new system which Crown Zellerbach has devised to supply a great paper center at Antioch, Calif. with raw material is the basis for a new philosophy of manufacturing and marketing in this industry.

It may pave the way for more major manufacturing centers such as Antioch, right in the heart of a great paper market, yet over 1,000 miles from the pulp and the trees. The system is proving physically practical and economically sound. Patents are being applied for, covering novel features of the system.

PULP & PAPER's Feb. 1957 issue told of the unusual facilities at Duncan Bay, B.C., where 400 tons a day of shredded nodular kraft pulp is made for Antioch, stored on a huge concrete open slab, loaded with special conveyors and a stacker and boom onto a specially built tanker. At Antioch, also, there is unique unloading and storing and conveying equipment. This is the story of Antioch, already being hailed as "the Camas of California."

Crown has extensive property along the San Joaquin River at Antioch for future growth. There is ample space for three more big paper machines and a bleach plant, when and if desired. A bag plant and corrugated box plant already are built, and, with the mill, represent an investment which



Scale drawing by PULP & PAPER

Layout of Crown Zellerbach's New Mill at Antioch, Calif.

has reached $24,000,000. Three "Little Machines" (see Apr. PULP & PAPER, p. 46) are going into a new converting plant now under construction, to make tissue and toweling products. Thus the diversity of Camas, called the world's biggest specialty mill, is rapidly being duplicated. The entire plant site provides excellent foundation conditions. No piles had to be driven.

A round trip of the tanker from the Elk Falls Co. pulp mill in Canada to Antioch and back, 2,200 miles, will take 9½ to 10 days, depending on weather, allowing for 24 hours to load in Canada and 72 hours to unload at Antioch. However, Antioch can also be supplied, in emergencies, with lap pulp shipped by conventional freighter or r.r. cars from Elk Falls or other CZ mills in the north.

Unusual Engineering Problems . . .

They call this the "age of specialization." Yet, Crown Zellerbach engineers at the CEO (Central Engineering Office) in Seattle ran into a wider variety of problems on the Elk Falls-Antioch job than technicians in some other industries might meet in a lifetime.

Perhaps the most remarkable feat of all, engineering-wise, was the speed with which the Antioch mill was constructed. From the time the building contract was awarded to the time the machinery was ready for operation was only 10½ months, from Nov. 1, 1955, to Sept. 18, 1956. Actually, the machine startup was delayed until Oct. 12 because of the strike against the shipping company by the Sailor's Union of the Pacific.

Two major contracts were awarded for the job, one for general building construction to Howard S. Wright Co., Seattle, and one for the installation of equipment and the electrical and piping installation to Eichleay Corp., San Francisco and Pittsburgh. Both contracts were let on a lump-sum basis which meant that engineering had to be completed before the contracts were awarded and the work started.

In Heart of Paper Market—But Far from Trees

Map shows location of new Crown Zellerbach mill at Antioch, Calif., and last 50 miles of water journey of Canadian noodle pulp, in through San Francisco's Golden Gate to the mill dock.

Highlights of New Antioch Operations

- Papermaking and converting center in heart of market area.
- Special design tanker to transport nodular pulp 1,000 miles.
- Pumps, agitators, flexible hose, etc., for fast loading and unloading.
- Open concrete slab pulp storage (8,000 tons) at each end of line.
- Long rubber belt conveyors, giant traveling stacker and trimmer, for handling pulp.
- Special facilities for treating water and protecting fish.
- High density and low density storage and blending systems.
- Continuous pulp cleaning, refining and jordaning system.
- Second biggest Fourdrinier machine in West, makes paper and board, two inlets.
- First machine to remove sheet from wire between suction roll and wire turning roll.
- Mechanical differential drive with unusual "Little David" prime mover.
- New type broke conveying and processing units.
- Extensive instrumentation and controls on paper machine.
- Roll handling mechanized to an advanced degree.
- New continuous cooking equipment for starch.
- Volume bulk handling of incoming chemicals.
- New multiwall bag and converting plants.

Why a Mill at Antioch? . . .

Even more basic, the issue was: What is the best way to supply the San Francisco Bay area market and distribution centers with paper products. With Crown plants on the coast running full much of the time and probably more so in the future, the answer, plainly, was to look toward legendary Vancouver Island, B.C., where CZ of Canada was advantageously situated to manufacture additional pulp. Elk Falls was near the timber supply and a natural spot for pulp expansion. Antioch was, of course, well-known to CZ, for it was the site of two mills of Fibreboard Paper Products, formerly owned 50% by CZ. That spelled out the major problem in simple terms: To get the pulp from Elk Falls to Antioch.

Reed O. Hunt, executive vice president, and E. W. Erickson, vice president in charge of manufacturing and construction, were in on the original planning several years ago. The decision was made to go ahead with the new mills and to ship the pulp north to south. Sea transport, preferably by bulk carrier, appeared to be the best plan; this required planning for quick loading and unloading and a minimum turn-around time at each terminal.

While studying the problem, engineers investigated methods used in handling other bulk cargoes such as salt, gypsum and other products. These commodities differ from "noodle pulp" in that they "flow" to central loading points. "Noodle pulp," which does not "flow" readily until it is diluted to very low consistencies, did not lend itself well to any of the methods investigated. From experience in the mills on handling pulp from high density storage tanks, it was decided that a satisfactory method of slushing out highly diluted wet pulp by hydraulic pump from the tanks of the ship could be practiced. Indeed, one of the important factors in insuring economic operation of the new Elk Falls Co. mill was the assurance that this new cargo handling operation would be practical.

A Special Tanker Built . . .

After determining that the bulk shipment plan was feasible, CZ contracted with National Bulk Carriers (a Liberian corporation), which built a tanker capable of handling the job. Actual operation was to be entirely out of the hands of the pulp producer and performed entirely by the con-

Hatch Covers Open, a Full Cargo of Noodle Pulp

Note how much space on 587 ft. long "S. S. Duncan Bay" is required for pump houses, one for each of nine major tanks, other equipment for loading, unloading, mostly designed and supplied by Impco and Bingham Pumps.

tractor.

Built in Kure, Japan, and named the "S.S. Duncan Bay," the tanker measures 587 ft. in length, has a beam of 84 ft. Its cargo capacity is nearly 800,000 cu. ft.—equal to about 200 railroad cars. The return trip from Antioch to Duncan Bay is by empty ship, except for water ballast.

Loading facilities at Elk Falls are designed to handle 750 wet tons per hour. The ship is designed to unload at the rate of 480 wet tons per hour and the shore installation at Antioch (the thickening equipment) is designed to permit unloading at the rate of 220 wet tons per hour, which rate can be increased to 480 tons by adding additional equipment.

What Happens at Elk Falls

The long trip from the Elk Falls mill begins for the pulp as the sheet is formed on a Sherbrooke vacuum cylinder followed by a Kamyr press and then passed through a shredder and transported by a belt conveyor system right into open outside storage at about 33⅓% consistency. This open storage will accommodate about 8,000 tons of b.d. pulp. The wet pulp is distributed to the storage piles by a traveling stacker equipped with ship trimmer.

Pulp is reclaimed from the open storage with Caterpillar D-8 tractors with special blades. The D-8's push the pulp into traveling hoppers equipped with chain conveyors which discharge onto a 72 in. belt conveyor. This conveyor travels to the new loading dock where pulp is dropped onto a cross belt on a traveling structure and is discharged from this cross belt down a chute onto a ship trimmer which distributes it to all corners of each of the ship's cargo tanks.

Equipment on Tanker

The "S.S. Duncan Bay" is divided into nine major compartments or tanks. Three have center bulkheads, thus making 12 actual tanks in all. Each of the nine major tanks has its own pumphouse equipped with banks of valves to control the flow of water to the various dilution nozzles in the tanks. In each pumphouse is a Bingham vertical stock pump driven by a 200 hp motor and designed to deliver 3,000 gpm of stock at 158 ft. head. Improved Machinery Inc. was a principal contributor in development of equipment for use on the ship.

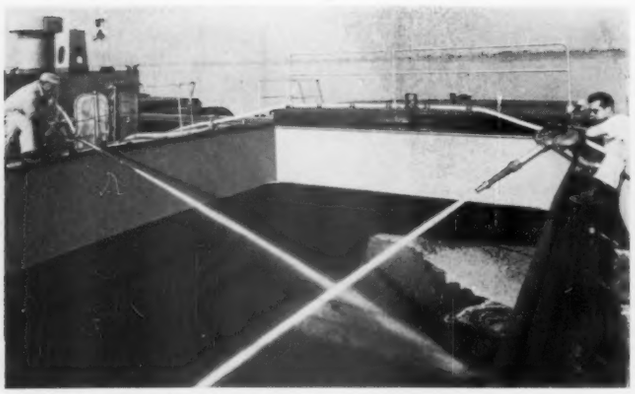
On the suction side of each pump is an Impco horizontal propeller agitator with breaker arms to break down and blend the stock with dilution water before it enters the pump. Dilution water supply in the vicinity of the propeller units is controlled by the load on the propeller motor. Stock is delivered from each of the pumps at approximately 2% consistency through nine separate lines to ship to shore connections on the ship's deck, thence to a blending tank on shore.

The "Duncan Bay's" engine room is equipped with two 64,000 lb. per hour steam boilers designed to operate at 550 lb. pressure. These units supply steam to the ship's auxiliary equipment and to the propulsion turbines when the ship is under way. When in port and pumping, they supply steam to two 1,500 kw turbo-generators which generate power for the nine stock pumps. They also supply steam for pumping dilution water to the dilution nozzles in each of the 12 tanks.

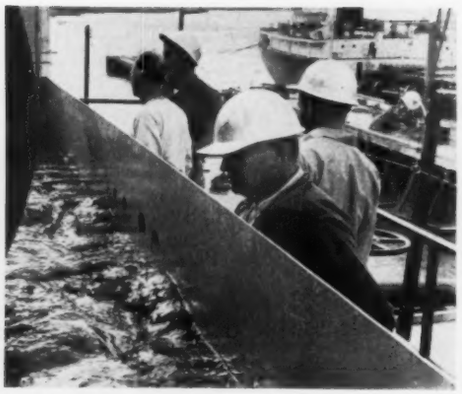
The dilution water pumping equipment consists of four 6,000 gpm steam turbine driven pumps (one is a standby), each designed to deliver water to the high pressure dilution nozzles at 150 psi; three 6,000 gpm steam turbine driven pumps (one is a standby), each designed to deliver water to the low pressure dilution nozzles at 45 psi.

Each stock tank is equipped with one Impco high pressure swing nozzle for hydraulic mining in addition to numerous fixed nozzles, both high and low pressure. The water supply to the dilution pumps is taken from a storage tank on shipboard, which in turn receives water through ship to shore connections from a water storage tank on shore.

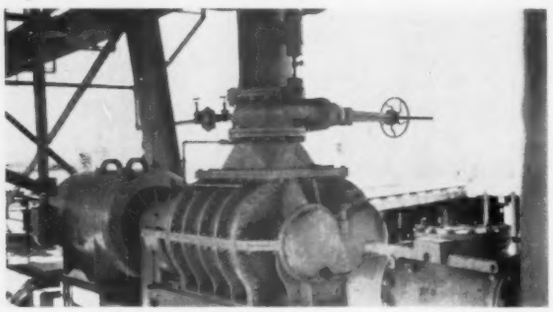
An interesting feature in the pumping installation is the flexible connections between the "Duncan Bay" and



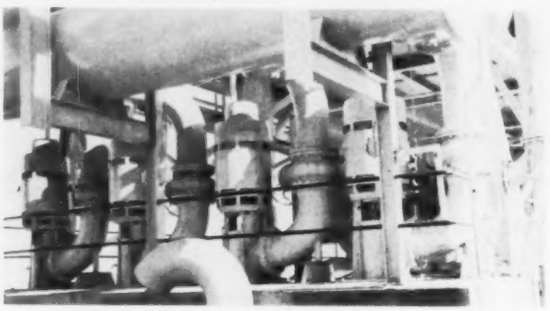
Stock Leaves Ship Tanks at 2% Consistency
High pressure water jets aid in diluting pulp. There are 9 lines leaving ship.



Slurry Will Be Thickened to 25%
It flows here in header vat to three Dorr-Oliver deckers on unloading dock.



Draw Vacuum on Big Deckers
Roots Connersville vacuum pumps draw vacuum on deckers for unloaded pulp.



White Water Reused to Unload Ship
Four Fairbanks Morse pumps transfer white water back to storage tanks for reuse.

Pulp Fed Through Ship-Type Trimmer
Specially built stacker with 110-ft. boom piles pulp on the "Football Stadium"—big open storage 1,000-ft. long slab.

Pulp Bulldozed into Hopper
Extra-wide Caterpillar D-8 tractor pushes pulp over lip of open storage slab into hopper, on belt to mill.

Pulp Conveyed from Slab to Mill
Pulp goes up this conveyor to three high density storage tanks, lined by Stebbins, Permolite spray coated by Huntington Rubber Mills. Below tanks are two E. D. Jones Hi-Lo Pulpers.

Here Pulp Reaches Mill
One of three 56-ft. high density tanks at left; lower tanks are low density—for takeup, blending and broke. Note Impco agitators.

the dock. These are U.S. Rubber hose connections, one for each stock discharge line, nine in all, and eight for the water supply lines. These connections are core-flex hoses, 12 in. in diameter and 60 ft. long, similar to oil hoses. When not in use, they loop down into the water from the main header under the dock. To put them into service, the loose end of each hose is lifted by ship's tackle and bolted to the flanges of the ship to shore connections on the ship's deck.

Unloading Tanker at Antioch . . .

The "Duncan Bay" travels through the Strait of Georgia and Strait of Juan de Fuca to the Pacific Ocean. Then south to the Golden Gate. Passing under the famed bridge there, it follows a 50-mile inland water course to Antioch via the Sacramento and San Joaquin Rivers.

First dock at Antioch was destroyed by a fire last summer soon after construction. It had a timber deck and creosoted piles, which were charred. A new concrete deck was built, and pile tops were cut back and piles were gunited to low water for fire protection. Dock is 287 by 40 ft., large enough to handle one ship.

As soon as the "Duncan Bay" ties up at Antioch, flexible hose lines are connected. First job is to reduce consistency of the pulp aboard ship to a slushy 2% to 4%. Unloading operations on shipboard are controlled from a central control room. Ship to shore phone connections and phone connections to each separate pumphouse are maintained. Ammeter readings on various stock pumps and propeller motors give a fair indication of stock discharge consistency and, by opening or closing dilution valves, consistency control is maintained.

Water is pumped from a large white water tank on the dock to the ship. It is mixed with stock and pumped back on the dock into a stock blending and equalizing tank. Four Fairbanks-Morse Size 12 water pumps are on the dock. From the blending tank, diluted stock is pumped to three 11½ diameter by 16 in. face Dorr-Oliver deckers which are designed to thicken the stock to 25% A.D. consistency in flake form. Vacuum is drawn on the screens by Roots-Connersville pumps. Water from deckers goes back to the white water tank for re-use in another unloading cycle.

Antioch is in tidewater area and water used in the mill and the water used for unloading the pulp is treated. In dry months when the river gets low and salt water reaches the mill location, water is taken from a nearby canal. Interesting, also, is that in accordance with state conservation requirements, a Chain Belt Rex traveling water screen is ahead of the pump which brings in water from the river to stop any fish or debris that stray that way. There is a separate fish pump to carry the fish back safely to the river.

The water for pulp handling is processed in a Dorr-Oliver 120 ft. diameter Clariflocculator and treated with activated silica and chlorinated.

Excess water from the mill's main turbo-generator condenser cooling system is also available to supply the tanker's demands for startup, washup, etc.

Interesting sidelight on the ship system of transport is that the use of automatic pumping equipment requires no hand labor by longshoremen and is expected to eliminate any possibilities that waterfront strikes, which have plagued the West Coast generally, will interrupt the critical closely-timed service.

How Pulp is Stored and Conveyed...

Between the dock and the storage slab are two long endless belt conveyors. The one nearest to the dock is the stacker conveyor, with a 48 in. belt, 2,000 ft. in circumference. Paralleling this, and just on the rising lip of the storage slab is the reclaim conveyor, with a 42 in. belt, 1,930 ft. in circumference. Quaker Pioneer Rubber Mills made the belts with Reliance grade rubber, and Link-Belt Co. provided the frames, rollers, transmission, and other conveyance equipment.

The Stephens-Adamson traveling inclined stacker and boom, especially built in Los Angeles, travels along the stacker conveyor, which has a traveling hopper to which pulp is fed from the deckers, and it will transfer the 25% consistency pulp to the slab at any point desired along its 1,000 ft. length. The boom extends 110 ft. horizontally from the stacker body. The 180 ft. wide storage slab, nicknamed "The Amphitheatre" or the "Football Stadium" by Antioch staff, is 170 ft. wide, from a 30 ft. high lip on the millside to a 20 ft. high lip on the dockside, where the stacker operates. Thus, the end of the boom reaches a good distance across the slab. Pulp can be fed through the stacker's ship type trimmer to the slab, or it can be merely thrown off onto the slab.

The slab will hold easily about six ship loads of pulp. The plan is to stack species separately, such as fir, hemlock, cedar. Piles of pulp can be 30 to 40 ft. high in the middle of the slab. It is calculated that 15,000 tons of A.D. pulp can be stored here in open air for at least two months without any deterioration.

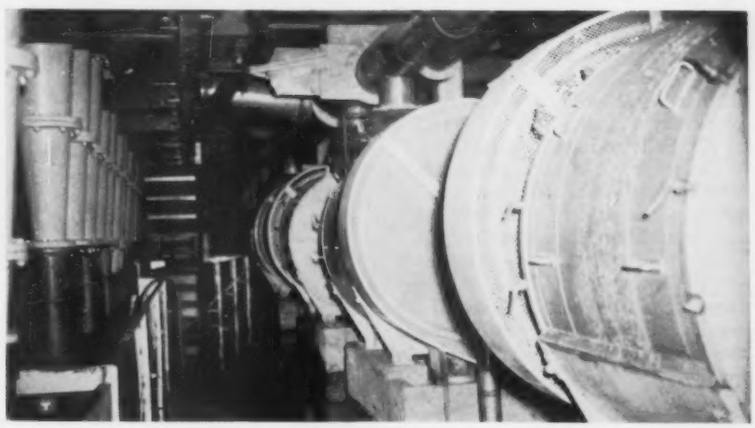
Reclaiming Pulp . . .

On the reclaim belt is a traveling hopper which can be positioned anywhere desired along the length of the slab. Caterpillar tractors with extra wide tracks and special blades push pulp over the concrete slab lip, which rises 20 ft. on this side, into the hopper, which feeds onto the traveling belt.

From the reclaim conveyor, pulp is gravity fed onto the conveyor which runs at right angles to the mill—actually to the top of high density storage tanks. This is also a 42 in. Quaker Pioneer belt, on an 800 ft. Link-Belt conveyor, the belt being twice that length, of course. The conveyor rises to a height of 60 ft. Pulp can by-pass the storage slab and go directly to the mill via these conveyors.

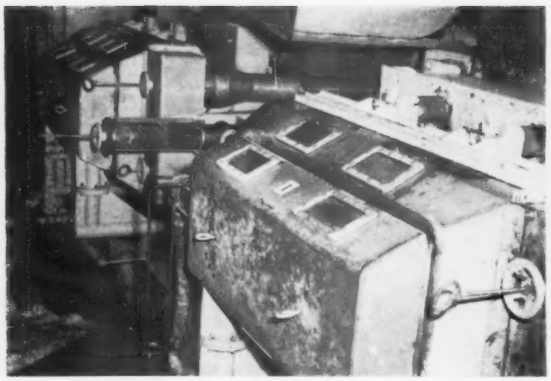
Many Tests Needed . . .

The storage, handling and shipment of wet pulp required a consider-



First Stock Processing Inside Mill

Open air stored pulp goes through 19 Bauer Centri-Cleaners on left, then four Appleton Machine Cowan screens on right.



Where Rejects Are Processed

Cowan rejects go through Bauer refiner to these two Dorr-Ahlfors screens; deckered stock goes back into process again.

Next are Single Pass Refiners

These are five Emerson Claflin No. 3 refiners driven by 400 hp General Electric motors. Then stock goes to the Jones jordans.

able amount of experimentation before final definite routines could be set up. For instance, PULP & PAPER asked W. J. Lowndes, CZ's chief engineer, how they knew what would happen when pulp was stored out in the open for long periods, subject to vagaries of weather and movements of organisms through the atmosphere. He said that Crown had a number of years' experience in the storage of groundwood in the open at West Linn, Ore. (This is a waterpower mill and they built up groundwood inventory to carry them over periods of low water and low power production.)

He also mentioned tests made on baled kraft pulp shipped from the Northwest to the Fibreboard mill at Antioch in Feb. 1953. This pulp was put through Davenport presses and placed in open storage as "noodle pulp." In June 1953, an exhaustive set of tests were made to determine the best type of equipment for handling this pulp. Clamshell buckets, slip scrapers, Caterpillar bulldozers, and pneumatic transmission were tried. The material could be handled fairly well by any of these, but the bulldozers appeared to work as well or better than others. Consequently, large standard type bulldozers with special blades are at work in the storage piles at Elk Falls and at Antioch.

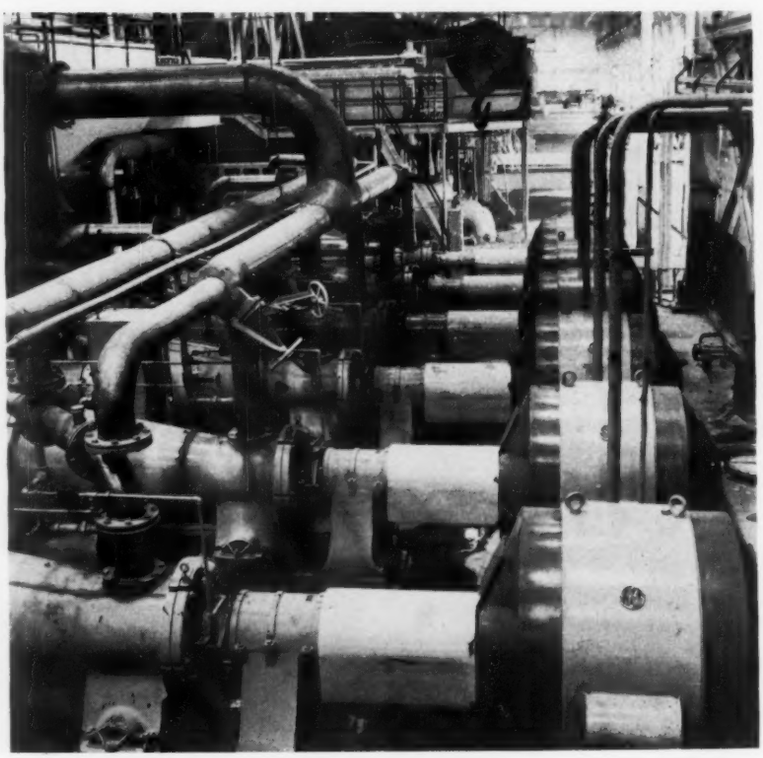
Tests were also made to determine how the pulp would compact under pressure and to determine how much pulp could be shipped per cu. ft. of tanker capacity. Over a period of a year, Crown Z's Central Research Dept. conducted tests on this pile of noodle pulp at Antioch to determine the effect of open storage on pulp quality.

Blending of Pulps . . .

The pulp goes into high density at about 25% consistency. There are three high density tanks—for hemlock, fir or cedar pulp—each 56 ft. high, 40 ft. in diameter, holding 250 tons each. The bottom two-thirds of each tank is tile lined by Stebbins Engineering and top third with a plastic coating. Impco agitation and dilution equipment with Western Gear drives are used in the tanks. There are DeZurik consistency regulators at each of the high density outlets.

Next to these tanks are three low density storage tanks, 36 ft. high, 30 ft. in diameter, and likewise served with Impco and Western Gear units. Each is completely tile lined by Stebbins. Middle tank of these three is for blending pulps from high density as desired, at about 5% consistency or less. The other two are for storage of broke and storage after screening and deckering.

Permolite protective coatings (five in all) were applied by spray to ten tanks and chests by Huntington Rubber Mills, Seattle. The walls and ceilings on three high density storage



Stock Touches Only Stainless Steel

From DeZurik consistency regulator at left, stock goes to these E. D. Jones Majestic Accru-Set jordans, three series of two each, with 400 hp General Electric drives.

tanks and three low density tanks were also covered with Permolite. Complete coverage inside the machine, jordan, white water and decker chests was effected.

Three Foxboro magnetic flow meters are used in the stock line from the high density dilution system. This system makes possible centralized control of different pulp stocks. One man easily controls the entire blending operation by simple adjustment of ratio dials, and he can easily vary the blend any time merely by changing settings.

The Foxboro magnetic flow meters measure actual flow of stock so that measurement together with proper consistency control will give the desired proportion of stock.

Also outside the mill at this "wet end" of the operation, are two large E. D. Jones & Sons new type Hi-Lo Pulpers under an open shed with Western Gear drives, powered with 350 hp GE motors. These are hooked up in such a way that they can process any of the incoming pulp which becomes too dry on the slab, or special deliveries of broke or lap pulp from Elk Falls, Port Townsend or other Crown Z mills. Also an E. D. Jones stainless steel Pulpmaster is used to process wet strength broke.

Flow of Operations in Mill . . .

The flow in the mill and the types of processing equipment used step by step are of interest. Not because it is different or unusual, but because, entering into this planning, is consideration for the fact that the nodular type of pulp is the raw material, and because this pulp may be exposed to the outdoor elements for long periods on both Duncan Bay and Antioch storage slab.

Entering the mill from low density blending storage, 5% stock is first processed through Bauer Centri-Cleaners, 15 primary, three secondary and one tertiary. Any serious amounts of dirt picked up in storage or ocean transport will be removed.

The pulp then goes over four Appleton Machine Cowan screens and two Dorr-Oliver deckers. Screening rejects go through a Bauer refiner and then two Dorr-Oliver Ahlfors screens. Screened and deckered stock goes back to one of the low density storage tanks outside the mill. From there it is routed back through a DeZurik consistency regulator to five single pass Emerson Claflin No. 3 refiners, driven by General Electric Triclad synchronous 400 hp 2300 volt 60 cycle 3-phase 400 rpm motors. Then to a Stebbins tiled storage chest and through another DeZurik consistency regulator to three series of two jordans each. These are E. D. Jones & Sons Majestic Accru-Set type jordans with P-B plugs and No-Wave fillings, driven by 400 hp General Electric motors of the same specifications as the Claflin drives.

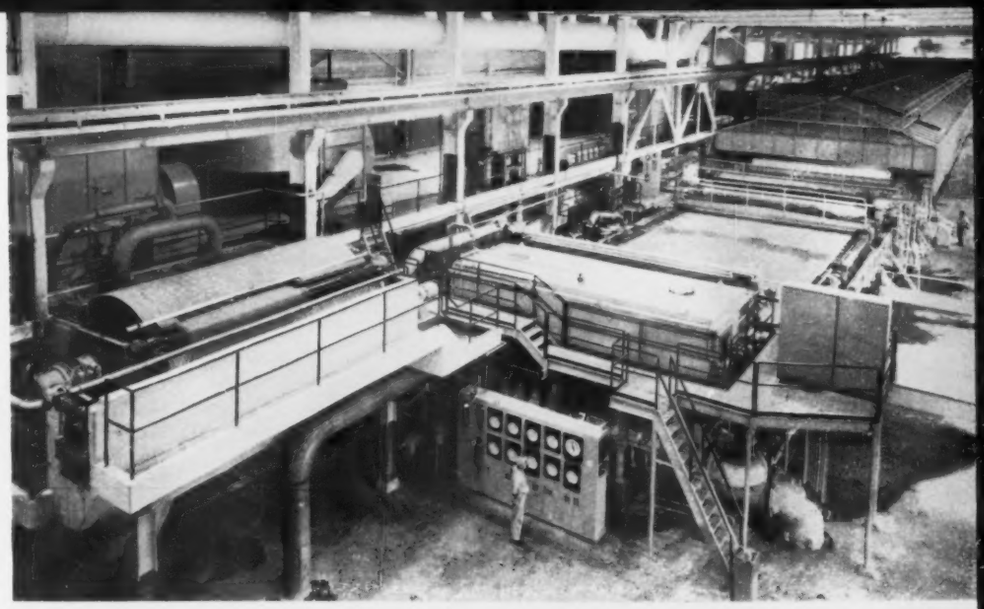
From here stock goes to the machine chest and another DeZurik regulator ahead of the machine. Everywhere stock touches only stainless steel, as extensive stainless piping by Northwest Copper Works is seen in this refining and jordaning area. Chrome molybdenum steel pipe fabrications are by Midwest Piping Co., Inc. Mixing Equipment Co. agitators are used for stock and starch.

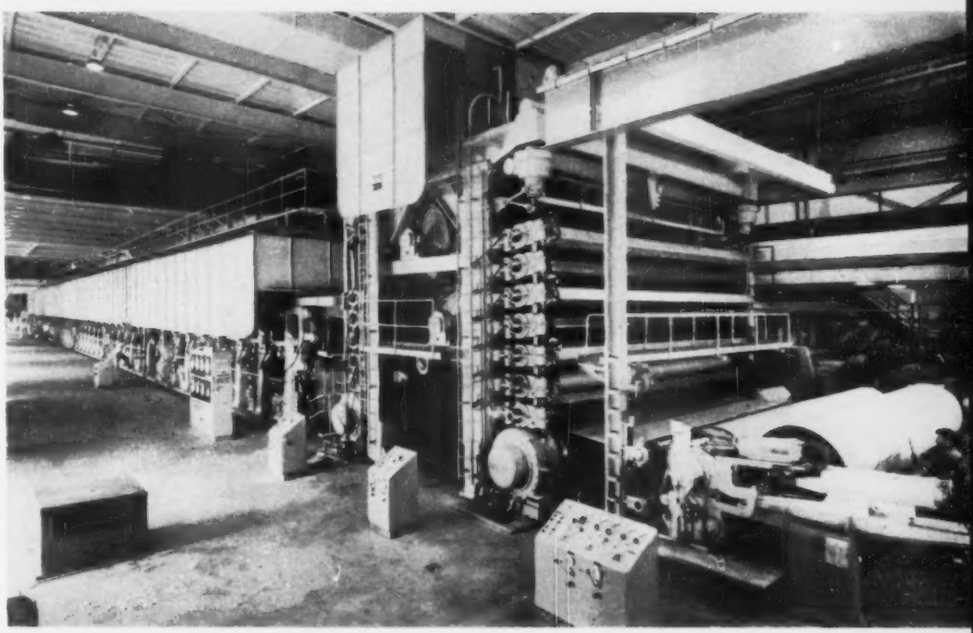
The machine room design is similar to that of CZ's No. 3 Machine at St. Helens, Ore. The building is constructed of concrete to the operating floor and has a steel frame above the operating floor. It has a cantilevered beam roof construction so designed that a temporary wall can be removed and a second machine added later if desired. The walls and roof are constructed of precast concrete panels and Fiberglas insulation is used.

Zonolite is used around the lower 15 ft. of the paper mill. It is painted brown and then sprayed.

Paper Machine is "All-Purpose"...

The all-purpose Beloit Fourdrinier machine will normally run about half time on bag paper and half on liner-

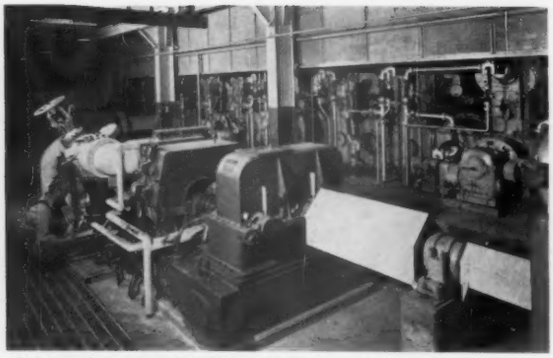




Second Biggest Machine in the West

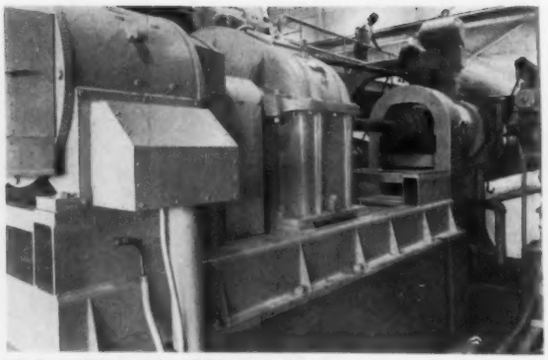
Wet end and dry end views of new mill's Beloit 260-in. Fourdrinier. Ahead of wet end is Dorr-Oliver saveall. Honeywell controls on panel facing camera. At end side of this panel is automatic Beckman pH control. There are two inlets. First machine to remove sheet from wire between suction roll and wire turning roll. Ross air system on mezzanine.

Dry end view shows two calender stacks, one 8-roll and one 6-roll. Coating can be done at size press, before fifth and last dryer section, or at secondary headbox. Machine is 440 ft. long.



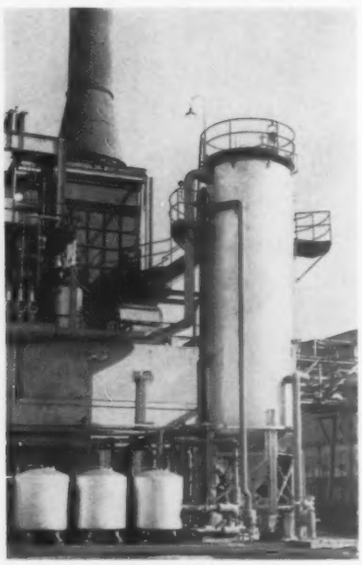
"Little David" Turbine is Prime Mover

This 2400 hp geared General Electric turbine driving line shaft for "Big Goliath" machine. Has power takeoff in both directions. Mechanical differential drive system powers machine.



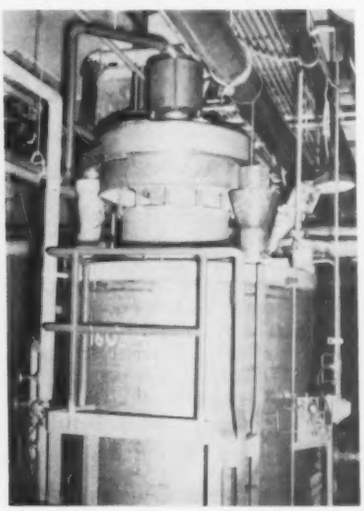
Helper Drive for Big Machine

This 150 hp General Electric motor driving vacuum couch roll is one of four motors constituting wet end helper unit. Two motors drive wire return rolls. Fourth motor at top of this picture drives lumpbreaker roll being observed by operator on walkway at top right.



Process for Water Treatment

This Cochrane hot process unit is a feature of the power plant at Antioch.



New Units in Starch System

One of two Sweco Separators on starch supply.

board. It is 440 ft. long from headbox to calender rolls. It is equipped to vary its product from paper down to 35 lb. and board up to 69 lb. It is able to make 600 tons a day of board and 400 tons a day of paper.

Its 260-in. wire makes it second biggest machine on the West Coast, next to Elk Falls' 268 in. newsprint machine, and passing Port Townsend's 252 in. kraft Fourdrinier machine. It is designed for speeds up to 2,500 fpm.

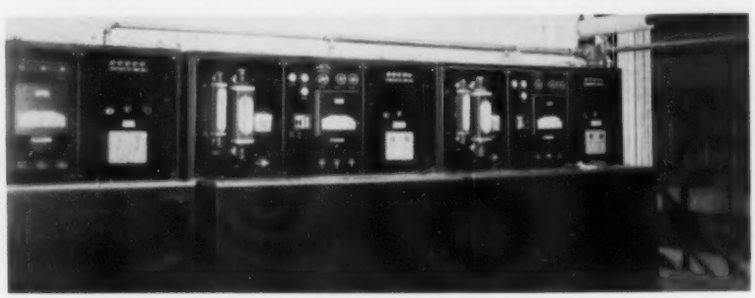
The machine is line shaft driven with electric helper drives on the wet end and size press. A Beloit mechanical differential drive system has Link-Belt PIV variable speed control units. The prime mover is a 2,400 hp General Electric geared turbine, seven to one speed range with power take-off in both directions. "Little David" as it is called, is located about halfway between the wet and dry ends of the machine it drives. The turbine governor holds speed constant to ¼ of 1% of full load speed at all points over the speed range. Initial steam pressure is 580-600 psi, back pressure, 60 lbs. Exhaust steam supplies heat for the drying rolls. Additional process steam is available as needed by extraction from the turbine of the electric power plant.

Powered by a 500 hp General Electric drive, a Worthington 35,000 gpm fan pump sends stock through a Beloit air-cushioned pressurized inlet. There is also a secondary inlet over the vacuum box. An automatic Beckman pH control system is used. A dandy roll and lumpbreaker are at the forming end. The lumpbreaker is on the primary suction couch.

According to Mr. Ostenson, resident manager, this is the first machine designed to remove the sheet from the wire between the suction roll and the wire turning roll. The sheet comes off easily. Two suction presses are followed by a pre-dryer section of five dryers and felt dryer. Then come the third press rolls.

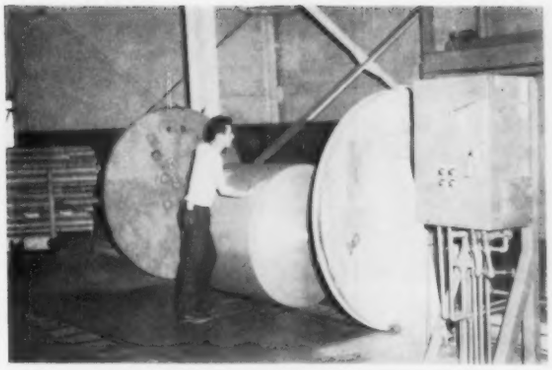
From its plant in Seattle, Huntington Rubber Mills supplied 24 rolls for the machine—7 were Ebonite wormed felt rolls and 13 Ebonite plain felt rolls. Two top press rolls for the third hot press section were Microrok covered. The 28-in. diameter lumpbreaker roll was covered with Stoprene, and bottom size press roll with Microrok. Griffith Rubber Mills, Portland, Ore., supplied some rolls including top press roll, a Griffith specialty. Stowe-Woodward, Inc., supplied two rubber-covered suction press rolls.

There are five dryer sections in all, with three more following the press section. A size press is ahead of the

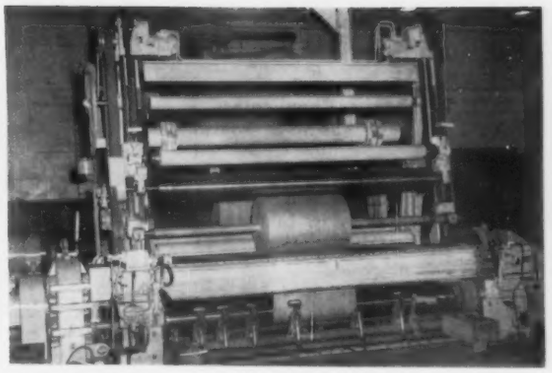


A New Automatic Cooker for Starch

New model Henry Pratt Hygelator at Antioch, developed with Penick & Ford.



Rolls Wrapped and Headed
In automatic finishing room system is this Lamb Grays Harbor wrapper and header.



Alternate Route for Finished Rolls
To this Cameron No. 19 rewinder, operating at 4,000 rpm on jumbos, 3,300 on counter rolls.

last section of dryers. When desired, coating can be done at the secondary headbox or at the size press.

There are 78 dryers in all, of 60 in. diameter, including two calender dryers and felt dryer. Dryers are of 125 psi pressure.

There are two calender stacks, one 8-roll and one 6-roll, followed by a Beloit reel and Beloit drum winder, able to handle paper at 5,000 fpm. It has a Tidland core shaft.

An unusually flexible drive is found on the winder. It is driven by two 200 hp d-c General Electric motors supplied by a 400 kw GE motor generator set. The control console includes the hydraulic, as well as electric controls in one pulpit type unit.

New Broke Handling System . . .

A new arrangement is in use at Antioch for handling broke. There are two Morden Machine Co. Slush-Makers, but instead of each unit being in the usual round tub, both are in a single tub.

Time and effort are saved in the way broke is handled at the dry end. When broke rolls off the machine it drops down through the floor in the calender stacks area onto a conveyor, which is the full width of the machine. The broke is squeezed down by a hinged "squash belt" traveling at the same speed as the conveyor. The broke is thus concentrated in a mass several times the single sheet weight and is much more easily handled in the twin Slush-Makers. From Slush-Makers, broke goes back to one of the low density storage tanks for re-use.

A Dorr-Oliver saveall salvages fibers from white water and Ross Engineering Corp. provided the machine dryer exhaust hoods, air heating and makeup, Grewin system and air ventilating for motors. Most of the Ross Engineering equipment serving the machine is on a mezzanine floor. Ross Midwest-Fulton provided the steam condensate system.

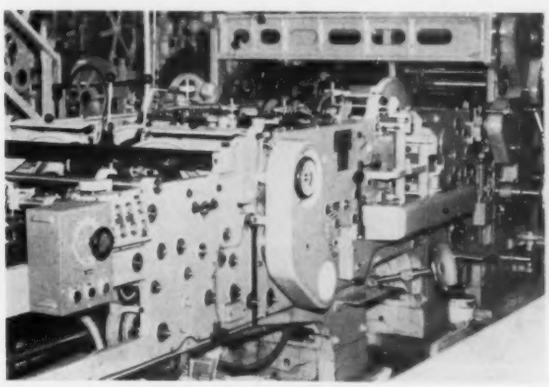
Advanced Roll Handling . . .

Roll handling has been mechanized to an advanced degree by a well-engineered system that cuts costs and raises production. When a complete roll leaves the winder, it is slitted to roll lengths and the rolls then go to a Lamb-Grays Harbor wrapper and header, and Toledo scale, then drop to a lower floor by means of a Link-Belt Lowerator, which automatically discharges onto a Jervis B. Webb conveyor system in the roll storage building. There the roll can be discharged off the conveyor to any loading spot, for cars, trucks or ships or back to rewinder. Automatic contact switch equipment is used on conveying systems.

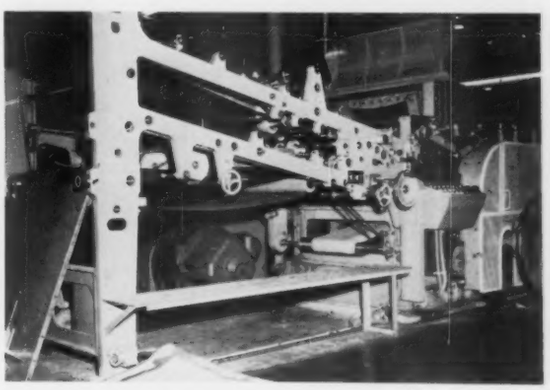
Rolls also may go to a Cameron No. 19 rewinder operating at 4,000 rpm on jumbo rolls and 3,300 rpm on counter rolls. Paper for the bag and converting plants are transported by trailer truck.

A cutter is provided in the bag plant. Hyster gas fork trucks and Clark Equipment gas grab trucks are used for inside truck transport. In the bag plant, Reliance package unit drives are provided for machinery.

A railroad track runs under the dry end of the machine, where rolls can be lifted directly on or off the train and to or from the machine. An Ederer 50-ton machine crane handles the rolls. In the basement is a Farrel-Bir-



New Type Equipment in Bag Plant
New German-built bottomer, by Windmoeller & Hoelscher, in new Antioch mill bag plant, driven by a 10 hp Reliance Electric & Engineering V°S drive, showing operator's controls.



Delivery end of multi-wall bag machine, also made by Windmoeller & Hoelscher, driven by 50 hp Reliance V°S drive. These package Reliance units were used throughout bag operations.

mingham roll grinder, set up on late type mounting, which eliminates vibration.

Instruments, Pumps, Chemicals . . .

"We've gone about as far as we can go on complete instrumentation on the paper machine at Antioch," stated R. P. Hutchinson, CZ's assistant chief engineer. "We did a few things that we feel will improve the operation and eliminate a lot of grief that normally occurs around a paper mill."

Most instruments and controls in the mill are by Minneapolis-Honeywell and Foxboro, and Bailey Meter provided all instrumentation for the power plant.

A Fuller pneumatic Airveyor system is provided to unload and convey starch. A new model, Henry Pratt Hygelator, developed with Penick & Ford, continuously cooks starch by automatic process. A Hercules emulsifier also services the machine. Two Sweco separators, one 18 in. and the other 48 in., are also used in the starch system.

Roots-Connersville vacuum pumps service the paper machine. Most stock pumps are Goulds. Water pumps are Fairbanks-Morse. A. R. Wilfley pumps are used for wet strength storage, and for hydrochloric acid and Melamine resin solution. A Friend Mfg. Co. pump is for slime and foam control. Specialty and stainless steel valves and fittings are generally used, including many Crane products and Kelton (H-K) Wafer valves and De-Zurik plug valves and controls.

Volume, bulk handling of chemicals has been achieved at Antioch. Not only will the company be able to obtain chemicals in more economical quantities, but they will be able to reduce unit costs in loading and mixing and inside handling. Sizing and starch are being handled in bulk by conveyors. Various chemicals are being shipped in "wet," already mixed. The starch system here is continuous.

Power Plant

Part of the power plant is unhoused. The mild Antioch climate allowed this.

There are no worries at the plant about shortages of water or power. They have a tie with the utility company for 2,500 kw of startup and standby power.

A Babcock & Wilcox oil or gas burning boiler, operating at 300,000 pph, 600 psi and 825° F., and a 12,500 kw General Electric turbine are principal units of the mill's power plant. A Cochrane hot process for water treatment is followed by hot Zeolite softeners. The Babcock & Wilcox boiler and the Cochrane process were sold and installed by C. C. Moore & Co., Engineers, San Francisco.

An Ingersoll Rand turbine condenser will be producing more than is needed for process use. Flexson expansion joints are a feature.

Antioch's Manager

GUS OSTENSON, resident manager of the new Antioch Division—CZ's "future Camas of California." Mr. Ostenson had been manager of all paper manufacturing at the big diversified Camas, Wash., division.

Fuel oil is received across the dock from bulk carriers and delivered to a 72,000 bbl. storage tank.

Antioch Created Promotions for 490 Men

The key staff for the new Antioch Division of Crown Zellerbach Corp. was largely worked out some two years in advance of the mill startup. Not only that—CZ was "looking forward to opportunities we can't even see yet" in the staffing of Antioch.

Those are the words used by R. T. Kimberlin, vice pres.—corporate development. Some 90 men were drawn from other plants and offices. This touched off a chain of promotions for some 400 employes in those and other plants and offices. Staffing of Antioch, therefore, meant sharpening and improving the training of nearly 500 men.

The staff at Antioch (in parentheses, other CZ plants or offices whence they came):

Gus Ostenson (Camas), resident manager.

Tom Leedham (San Francisco and Camas), asst. resident manager.

Leland F. Maybach (Camas), plant engineer (recently appointed project engineer for new CZ Time mill at St. Francisville, La.).

Leonard R. Greger (Camas), electrical engineer, named plant engineer to succeed Mr. Maybach.

J. H. Quigley (Port Townsend), supt. of paper production.

Chester T. Beals (Camas), asst. supt. of paper production.

Looking Over Antioch Mill Drawings

Seated are: WILBUR LOWNDES (left), chief engineer, Crown Z's Central Engineering Office, Seattle, and GUS OSTENSON (right), manager of the Antioch mill. Standing, l to r: R. P. HUTCHINSON, HUGH BYRNE, LUCIEN MONCINI and HENRY SOLBAKKEN, all of Central Engineering staff.

From Antioch to South

LEE F. MAYBACH, plant engineer at Antioch since start-up and project engineer before that, goes to St. Francisville, La., for new CZ-Time Inc. mill.

ANTIOCH STAFFERS (l to r): TOM LEEDHAM, asst. res. mgr.; LEONARD R. GREGER, plant engineer; J. H. QUIGLEY, supt. of paper production; LUTHER B. LYNCH, asst. office mgr.; GLEN F. LOFTUS, office mgr.; CHESTER T. BEALS, asst. supt. of paper production.

MORE ANTIOCH STAFFERS (l to r): H. C. QUICK, quality supervisor; DUDLEY CHURCH, tech. supervisor; JOHN W. TILDEN, purchasing agent; LYNN R. WILSON, personnel supervisor; L. R. MULLINEAUX, steam plant supt.; D. R. FRANKLIN, yard supt.

MORE ANTIOCH STAFFERS (l to r): R. W. ANDERSON, master mechanic; T. C. PAISLEY, senior industrial engineer; EDWIN D. FRAZER, division industrial engineer; C. E. JOHNSON, supervisor of production planning; WADE WETMORE, bag plant supt.; O. N. ELLMAN JR., project engineer.

Dudley Church (San Francisco and Camas), technical supervisor.

H. C. Quick (Camas), quality supervisor.

Lynn R. Wilson (San Leandro), personnel supervisor.

John W. Tilden (West Linn), purchasing agent.

L. R. Mullineaux (Camas), steam plant supt.

Glen F. Loftus (Seattle), office manager.

Edwin D. Frazer (San Leandro), division industrial engineer.

T. C. Paisley (Camas), senior industrial engineer.

R. W. Anderson (West Linn), master mechanic.

C. E. Johnson (Camas), supervisor of production planning.

Luther B. Lynch (San Francisco), asst. office manager.

D. R. Franklin (Howard S. Wright & Co., Seattle), yard supt.

Wade Wetmore (San Leandro), bag plant supt.

Members of the Central Engineering office staff, Seattle, heading up phases of the Antioch project:

W. F. Lowndes, chief engineer.

R. P. Hutchinson, asst. chief engineer.

H. J. Byrne, steam and power.

J. H. Solbakken, stock preparation, paper drying and finishing.

E. E. Dale, electrical installations.

C. R. Partridge, supervision of drafting room.

J. G. Llewellyn, structural design.

C. G. MacDonald, architectural design.

S. E. Prather, pulp unloading systems.

J. B. Meyer, water supply and treatment.

G. A. Charters, instrumentation and chemical handling.

L. F. Maybach, CEO representative in charge of construction.

O. N. Ellman Jr., CEO Representative, project engineer.

F. D. Helverson, CZ's chief industrial engineer, was in charge of field tests to develop pulp handling equipment.

Acknowledgments . . .

This PULP & PAPER "special" is a combination of first-hand reports obtained at the Antioch, Calif., mill site, at CZ headquarters in San Francisco, and at CZ's Central Engineering Office in Seattle. Gus Ostenson, resident manager at Antioch, and members of his staff, W. J. Lowndes, CZ's chief engineer at Seattle, and his staff, as well as top CZ executives in San Francisco, were very helpful in providing PULP & PAPER readers with this first complete story of one of the really new major developments in the pulp and paper industry.

Authors of this special report are Albert W. Wilson, PULP & PAPER editor who toured CZ's West Coast operations; Stuart F. Leete, of San Francisco, and Ward C. Williams, of Seattle, both of PULP & PAPER's West Coast staff.

END

Improvements at Alliance Paper Mills

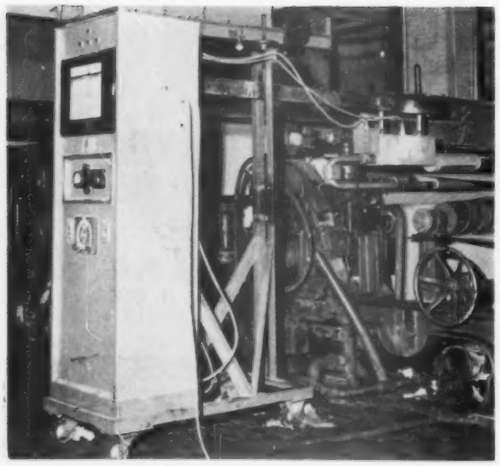
● A new Masson Scott sheeter and a Hygrotester moisture testing unit are among new installations in use now at Alliance Paper Mills Ltd., Merritton, Ont. In recent visit PULP & PAPER obtained accompanying pictures of the new aids to production.

This integrated mill produces about 90 tons per day of bleached sulfite and around 10 tons of No. 1 Easy Bleaching Sulfite. It uses some 185 cords a day of peeled wood. In paper mill operations are four machines: one 92-in. wide (84-in. trim) 4-cylinder machine; one 118-in. (106-in. trim), one 122-in. (110-in. trim) and one 128-in. (115-in. trim), all Fourdriniers.

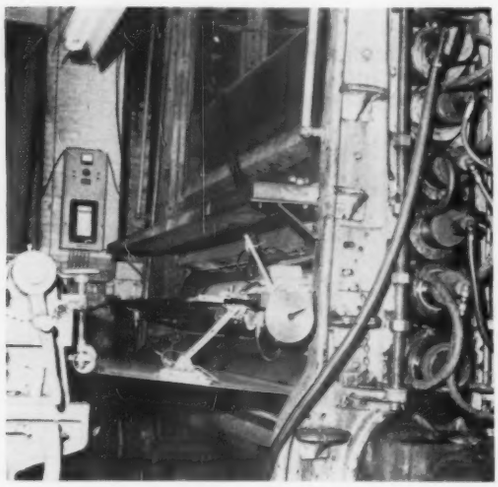
The Hygrotester moisture sensing unit on No. 2 machine was installed within the year. This machine also has an Isotope Products beta meter gauge in the press section, a portable, non-traversing unit.

The Masson Scott & Co. Ltd. sheeter has a Reliance 1,000 rpm V°S 25 hp drive. Cutting accuracy is guaranteed to within plus or minus 1/32 in. The sheeter is on the 84-in. trim cylinder machine, which also boasts of a recently installed Ross Air-System.

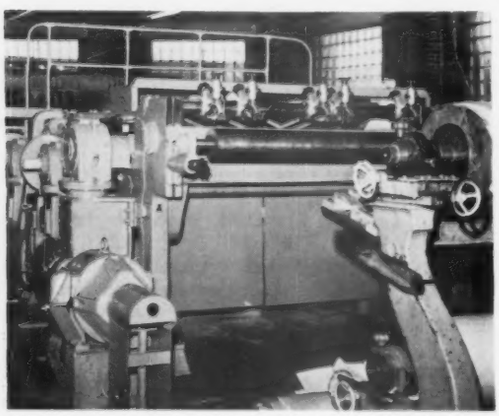
Vice President George Wilson and Production Manager W. F. (Bill) Stidwill showed the equipment.



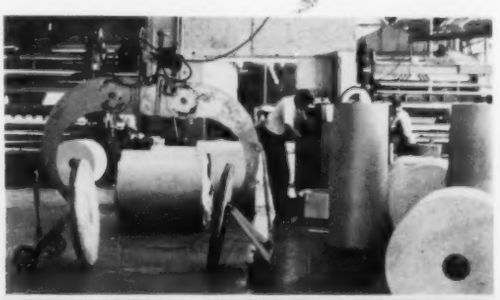
BASIS WEIGHT CONSTANCY IS MEASURED on No. 3 machine at Alliance Paper Mills by this portable Isotope Products beta meter gauge with non-traversing head.

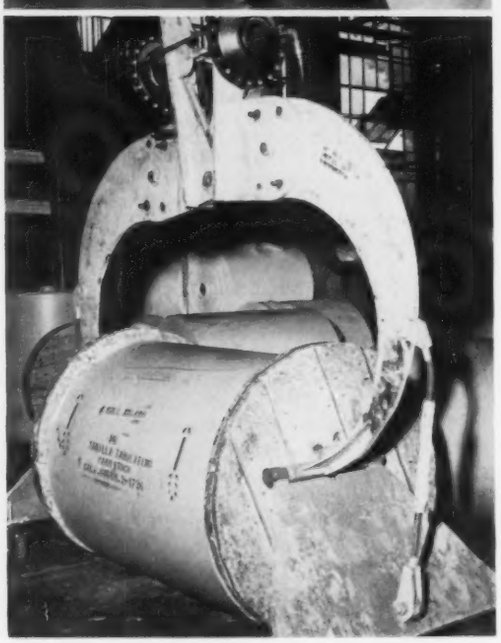


UNIFORM MOISTURE CONTROL at Alliance Paper Mills, Ltd., Merritton, Ont., is regulated by use of this recently installed Hygrotester unit on No. 2 machine.



NEW CUTTER FROM ENGLAND . . . Made by Masson Scott & Co. Ltd., it is on the 84-in. trim cylinder machine at Alliance. It is powered by Reliance 1,000 rpm V°S 25 hp drive. Cutting accuracy is guaranteed to within plus or minus 1/32-in.





THIS ROLL HEADER, conceived and fabricated by mill men at Alliance Paper Mills Ltd., consists of two Midland Steel air cylinders positioned on top of tongs. When the tongs are open (top), operator positions roll in between, applies glued headers to roll ends and then (bottom) he actuates the air cylinders which apply pressure to rolls until glue is dry.

Industry Gets Set for Round of Spring Meetings

WILLIAM R. ADAMS, Vice Pres.-Mfg., St. Regis. His subject—Coated paper and board manufacturing.

Various Coating Methods to be Discussed

William R. Adams, St. Regis Paper Co. vice president in charge of manufacturing, will discuss broad phases of the manufacture of coating paper and board at the TAPPI Coating Conference luncheon at Hotel Pfister in Milwaukee (convention dates May 20-23).

Tours of Western Lithographing Co. at Racine, Wis., on May 22 and either the Consolidated Water & Power Co. or Appleton Coated Paper Co. on May 23 are planned.

Harris O. Ware, director of research for Beveridge Paper Co., is to be moderator of a panel on coating methods. Panelists and subjects: G. K. Dickerman, Consolidated Water Power & Paper Co., the Massey coater; F. H. Frost, S. D. Warren Co., air knife coater; H. R. Hall, Allied Paper Mills, smoothing roll coater; G. T. Renegar, Container Corp. of America, Champion blade coater; C. A. Richardson, Blandin Paper Co., Rice Barton, trailing blade coater; R. H. Savage, Mead Corp., Kimberly-Clark-Mead coater; R. A. Vogt, Combined Locks Paper Co., Combined Locks coater; and W. E. Welliver, New York & Pennsylvania Co., gravure roll coater.

A panel on supercalendering will include D. C. Beaulieu, Kimberly-Clark Corp., as moderator; Judson Hannigan, International Paper; William O'Gare, Consolidated Water Power & Paper; R. W. Wiley, Crown Zellerbach; D. W. Sherman, Filter Materials Co.; E. B. Norman, B. F. Perkins & Sons; E. E. Thomas, Appleton Machine Co.; L. J. Scheid, Watervliet Paper; and J. E. Bray, Lowe Paper.

Set Dates For Containers Conference

The Seventh TAPPI Corrugated Containers Conference is scheduled for the Ben Franklin Hotel, Philadelphia, Oct. 23 and 24. George Port, Container Corp. of America, Philadelphia, is general chairman. H. E. Lindberg, Robert Gair Div., Continental Can Co., and R. D. Merrill, Stone Container Corp., are chairman-moderators of technical sessions set for Oct. 23. Plant tours will be on Oct. 24.

Plans for Pacific Coast Meeting June 6-8

"Reduction of Costs and Wastes" is the theme of the Pacific Coast TAPPI-Supts. Meeting June 6-7-8 at Gearhart, Ore. embracing a program designed to cope with current production problems.

Jack V. Savage, chairman of the Coast Supts. and sulfite supt. of Crown Zellerbach's Camas plant, says the subject "seems particularly timely in view of generally increasing costs."

Ben T. Briggs, head of Rayonier's Olympic Research Division at Shelton, Wash., is chairman of Pacific TAPPI.

F. O. Boylon, resident manager, Crown Z Camas Division, will be guest luncheon speaker.

Jack M. Wilcox, Electric Steel Foundry Co., heads the housing committee; T. M. James, The Flox Co., Inc., arrangements committee; Robert H. Smythe, of Ray Smythe Co., entertainment; Hugh C. Osborn, Lockport Felt Co., ladies program; Jack D. Gilberg, General Chemical Div. Allied Chemical & Dye Corp., golf; Walter A. Salmonson, Walter A. Salmonson Co., get-together party; Zan Wise, Griffith Rubber Mills, registration. Convention secretary, Miss K. A. Fralick, Morden Machines Co., 3420 S.W. Macadam Ave., Portland, Ore., has charge of pre-registrations.

Bachmann Slated To Head Supts. Assn.

For the first time in the history of the two organizations, a former national president of TAPPI will take office as national president of the American Pulp & Paper Mill Supts. Assn. at the Supts. annual convention in Chicago May 21-23.

Albert E. Bachmann, president and general manager of Missisquoi Corp., way up in the northern end of Vermont, becomes the first man to have held both positions when he takes over the Supts. gavel from President Martin J. Auchter, who is mfg. v.p. of Procter & Gamble's Charmin Paper Mills. Howard E. Wehr, manager of the Harriman, Tenn., mill of The Mead Corp., is slated to advance to first v.p. of the Supts., A. C. (Ace)

AL BACHMANN (left) and **HOWARD WEHR** (right).

McCorry, pulp supt., North Western Pulp & Power, Ltd., Hinton, Alta., to 2nd v.p.; Tom Coldewey, St. Joe Paper Co. vice pres., to 3rd v.p., and C. Ives Gehring, Oswego Falls Corp. vice pres., to 4th v.p.

Several university and other speakers from outside this industry are scheduled to talk on such subjects as employe relations, personality problems, "psychology of persuasion" and "brainstorming" and mill men also will take part in entire session devoted to employe and community relations.

On May 23, tours are planned of the R. R. Donnelley printing plant (see PULP & PAPER, April, page 62), and Container Corp. of America Ogden Ave. board mill.

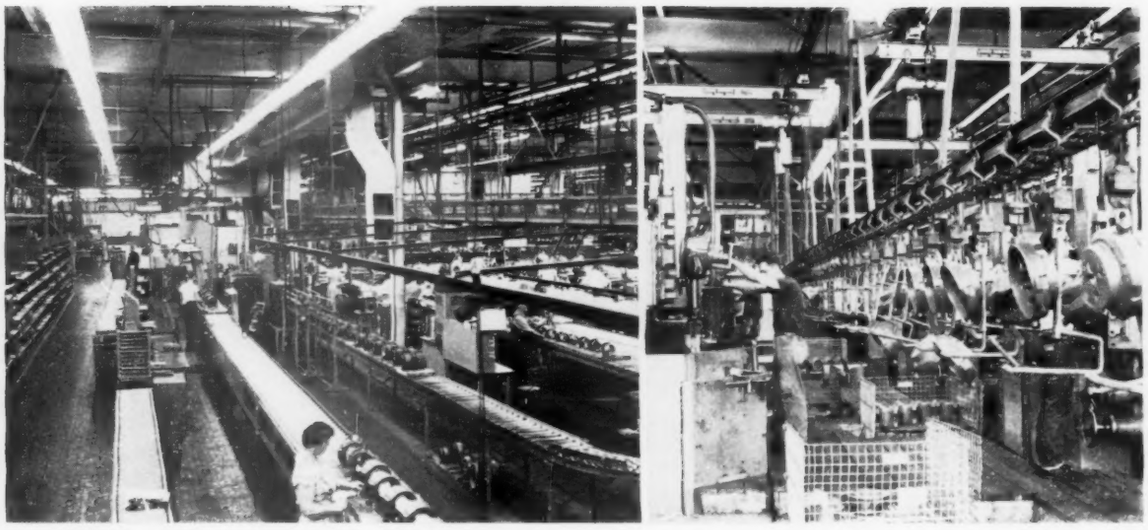
Lake Staters in Arkansas

The Lake States Technical Committee of American Pulpwood Assn. recently held its Spring meeting at the Crossett Co. in Crossett, Ark. The program included a field trip to observe logging and pulpwood methods in use at Crossett, tours of sawmill log debarking and pine sawmill waste chipping facilities, paper mills and the Crossett Co. forest. L. E. Pollard, Minnesota & Ontario Paper Co., was chairman of the committee.

National Paperboard Assn. Meets in West Virginia

The National Paperboard Assn. will meet at The Greenbrier, White Sulphur Springs, West Va., May 21 and 22, Albert W. Luhrs, executive manager, announced.

J. R. Kennedy, president, Federal Paper Board Co., Bogota, N.J., is president of the association. Sture G. Olsson, president, Chesapeake Corp. of Virginia, West Point, Va., and H. L. Wollenberg, president, Longview Fibre Co., San Francisco, Calif., are vice presidents.



Views in New Automated Reliance Plant
(Left) Completely automatic material conveyance in finishing with both roller and overhead conveyors. (Right) Close-up of continuous overhead conveying.

New Mills to Use New Speed Regulator

Reliance shows editors new methods for automated materials handling, introduced in modern motors plant

• A highlight—for pulp and paper—of a recent full day's tour of new facilities of Reliance Electric and Engineering Co. for some 40 magazine editors was unveiling of a new dual-circuit, variable-speed electronic mill regulator.

Two new mills being built in Southern states and two on the West Coast will install the new "VSMR" (a Wisconsin mill was first) designed for precise, highly accurate control of paper machines (where it will first be used) or other similar continuous processing.

A new redesigned Reliance V°S Jr. variable speed electric drive, with maximum size boosted from 3 to 4 hp and available from ¾ hp (220-volt to 440 volt models), giving wider application coverage, also was shown.

New Materials Handling Ideas . . .

Most of the day was devoted to touring Reliance's new, automated No. 3 electric motor (1 to 40 hp) plant at Ashtabula, O., 45 miles east of Cleveland, which a materials handling magazine editor said was "really new and important." He told PULP & PAPER's editor that an intricate system whereby Teleautograph Telescribers are used to coordinate processes at six receiving points, bringing rotors, stators and other motor parts together for assembly with seemingly split-second precision, is outstanding . . . seen occasionally in offices, rarely in plants, with such close synchronization.

A number of materials handling ideas in the Reliance plant would have excited pulp and paper industrial engineers and materials handling men, on the lookout for improvements. Coupled with the Telescriber message system was an extensively conveyorized plant. About a mile of continuous overhead conveyors, slowly but steadily transported a-c motor parts back and forth and around the modern 100,000 sq. ft. plant. At numerous stations parts were drilled, pressed, laminated, slotted, finished, assembled, tested, etc. Overhead monorail conveying replaced older methods of handling by gib cranes, skids, trucks—and by hand. Reeves variable speed drives match conveyor speeds to plant operation.

Pulp and paper engineers would be impressed by the way Reliance, at Ashtabula, keeps components moving, with little intermediate storage. A casting, started on its way, doesn't stop till all machining is finished. Where hair-line coordination misses, closed-loop conveyors serve as moving storage. Roller conveyors also are used.

Operations that would intrigue any industry engineer or operator include automatic gauging, close statistical quality control on the motors, use of carbide brazed-on tips and cutters on milling machines, heat treating at

Familiar Faces . . .
At their desks in new Reliance general offices bldg., two men widely known in this industry: J. L. (JACK) VAN NORT (left), in charge of d-c machinery industry sales and applications, and GEORGE E. LAW (right), one of two men on headquarters staff who devote their time to the pulp and paper industry.

1600° F., materials stocked at points of usage, employes working on individual incentives.

All jobs are processed according to sequence number. After wiring and testing, all cores are automatically varnished and baked twice or more times. Then an operator sends the sequence number by the transcriber to five other stations, where frame, end parts and rotor are started to assembly points, shipping office prepares shipping papers and production control records data. Even at the end of the line, the shipping clerk doesn't have to get up from his desk—just reaches out the window to attach tag and instructions.

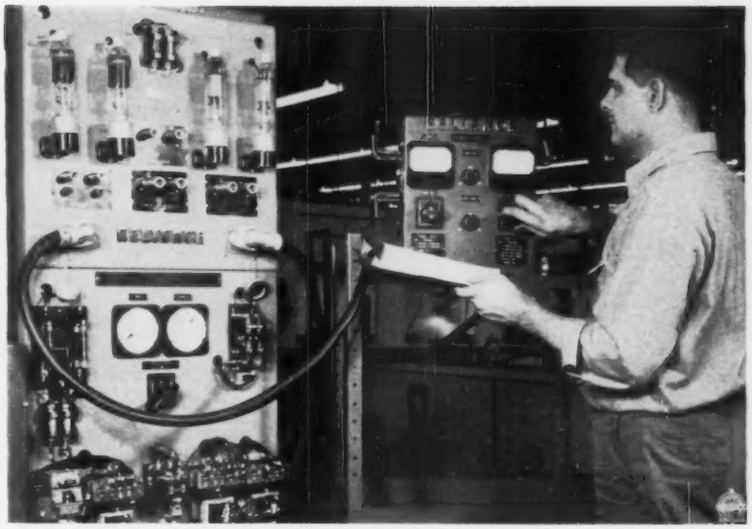
Ship in Paper . . .

All smaller Reliance motors are shipped in paperboard containers, with wooden bases. "We get better results with paperboard packaging than wood, and it is better for printing and labeling," said a Reliance official. "We are now experimenting with shipping larger motors in paper. Formerly all were shipped in wood."

An eye-catcher at Ashtabula was a Sundstrand transfer machine with nine operating stations, which faces, bores, mills, drills and taps motor frames—one every minute on average—doing work which required eight men.

Miniature Model is Useful . . .

Pulp and paper engineers would be astonished, perhaps, by a $25,000—20 ft. square—model of the new plant, on a sectional table, where any section could be removed for closer examination. Over 10,000 pieces of equipment are duplicated in the model, ¼ in. to one ft., produced by Visual Planning, Oakmont, Pa. The name signifies its usefulness. It aided designers in early planning, aided discussions with operators who would work in the plant. Methods engineers tried different machine layouts with the "toys." Air "rights" and clearances were easily spotted.



Going in New Mills in South and West

New dual-circuit, variable speed electronic mill regulator on couch drive (left) being tested. Developed by Reliance, it will serve as precise speed control on paper machines. Operates on two sets of output thyratron tubes in parallel. Each set is capable of handling output load without exceeding tube rating. Normally, tubes tend to share load. However, in case of failure in one half of regulator, two tubes in operable half instantly carry entire load. Thyratron tubes in power output does away with circuit tuning and matching. Available in 6-ampere and 10-ampere outputs. Reduces industrial maintenance to same category as changing light bulbs at home. Bluish glow when serviceable allows visual check. Reliance Sealpak circuits protect all resistor components. Special test fixture checks tube life.

Touring editors drove to Euclid, eastern Cleveland suburb, for a tour of the new $1,250,000 3-story Reliance general office building (24701 Euclid Ave.), housing 300 personnel. It is on a 69-acre campus type site where other Reliance manufacturing facilities are located.

Meet Reliance Officials . . .

There were talks by E. E. Helm, president; Roscoe H. (Doc) Smith, secretary, who 15 years ago helped the Pacific Coast pulp and paper industry pioneer its then revolutionary high, speed, high pressure hydraulic barking processes; Al Cherry, sales promotion mgr.; Richard A. Gueder, general mgr.-marketing; Walt Haber, mgr. at Ashtabula; Earl Barnes, asst. chief engineer, and George E. Law, who devotes 100% of his time to pulp and paper industry sales and applications. Later they met W. R. Hough, v.p. i/c engineering; Carl V. Gregory, sales mgr.; P. G. MacAusland, treasurer; Charles R. Sutherland, controller; J. B. Thomas, mgr. of Reeves products sales; Andrew Perrin, who heads Reliance's San Francisco, Calif., office and has "specialized" in the paper industry; Howard Latta, Los Angeles mgr.; Jim Stratton, assistant to Mr. Cherry; Merlyn Sypher, of Portland, Ore., distributors in a paper mill area, and others.

Jack Van Nort, well known in the paper industry, and head of all d-c machinery industry sales and applications, was out of town. Mr. Law, exclusively on paper industry work, was district mgr. in Appleton, Wis., 10 years, before returning to his native Cleveland about a year ago. He is a graduate of Fenn College, Cleveland. Assisting him and also 100% on pulp and paper is Richard Jamieson.

In four years, Reliance shipments have quadrupled—from $14- to $64,000,000. Much of its special work for pulp and paper is of the custom-building class in electrical equipment.

New Reliance General Offices—24701 Euclid Ave., Euclid, O.

Bill Lucey Passes

William S. Lucey, former executive vice president of Rayonier Inc., died Feb. 28 in New York after a brief illness.

CZ Paper School Ties Previous Record with 41 Fourth-Year Graduates

FIRST ROW (left to right) Donald E. Fifield, Adrian E. Douglass, Charles W. Hoxsie, Jr., Herbert H. Bottemiller, Ronald D. Cory, Bernard Dorman, Jack W. Schatz, William E. Priebe. **SECOND ROW** (left to right) C. Duane Cartier, Barton M. Bromberg, Myrno A. Madden, Keith Matson, Henry W. Rehr, Michael M. McCutcheon, Raymond E. Hanson, John J. Rods, Hayden H. Hinshaw, Ervin B. Degerness, Harold A. Luttrell, Don H. Pearson. **THIRD ROW** (left to right) Ernest V. Correia, Richard G. Holcomb, Maurice W. Burke, Dale H. Hoffman, John Bais, Elven V. Anderson, Franklin H. Terrell, Placid R. Goulet, Eldred W. Turner, Donald H. Michel, Elden W. White. **NOT IN PICTURE:** Marvin M. Brawner, Wilbur M. Brunell, Verlin R. Cotton, Loren C. DeMan, John E. Frederick, Robert L. Gaiser, Vernon C. Karns, Allen L. McDonald, Leroy Saulsbury, John G. White.

School Graduates 284 Full-Time Employes

• Cumulative accomplishments of Crown Zellerbach Corp's industrial education program continue to penetrate new highs. During the past 24 years the Crown Zellerbach Paper School has awarded 3,943 diplomas to employes successfully completing its college-level courses.

The current school year officially terminated with presentation of 281 diplomas, requiring two graduation exercises. On March 13 diplomas were granted to 127 students completing the first-year course and to 75 second-year students; 38 third-year and 41 fourth-year graduates received diplomas the following night.

Assistant Vice Pres. G. H. Gallaway, himself a graduate, presented diplomas and honor awards to students of the upper classes. He said Crown expects to progress in the next decade much as it has in the past ten years, and now has personnel on its payroll for handling such a program. It is management's problem to provide appropriate training, he said.

M. J. Otis, regent of the school and resident manager of the West Linn division, presented diplomas and honor awards to students of the first- and second-year classes. Regent F. O. Boylon, resident manager of Camas division, officially welcomed students and other participants.

Presidents of two Western colleges delivered commencement addresses to the graduating students—Dr. J. F. Cramer, of Portland State College, to first- and second-year classes, Dr. R. H. Sullivan, of Reed College, to third- and fourth-year groups.

Dr. Cramer said education "is the biggest business in the United States . . . it hires more people, has more invested in plant, spends more money."

As to reports that Russia is training more scientists and engineers, he said "this is true up to a point." The Russian graduates may be trained chemists, or engineers, but they are not "educated"; even the university trained chemist gets nothing but "chemistry, mathematics and Marxism."

Dr. Sullivan complimented the upper-class graduates for their "high motivation and will to learn" demonstrated by having completed their three and four years.

He viewed the Crown Z school experience three ways: As an educational program which in itself is valuable for those participating in it and which may be the last educational venture of any formal nature that a particular student will undertake; as a training program which equips a man to move on rather directly to higher positions involving deeper technical competence or broader responsibility within the company and within the industry; and as one step or series of steps in the life-long education of the individual.

At Graduation Exercises . . .

Portland State Colleg Pres. J. F. CRAMER (left), graduation speaker, greeted by Dr. W. W. MOYER, CZ Research Director (right) and A. W. NEUBAUER, Principal of CZ Paper School and Camas Coating-Sizing Supervisor.

Reed College Pres. RICHARD R. SULLIVAN (left) delivers graduation address. A. M. CADY (right), Paper School Dean and Asst. Supt. of General Mill Maintenance at Camas mill.

How School Started . . .

This school started modestly as a study group for Camas mill employes in 1933. Participation has long since spread to other CZ plants and offices within commuting distance of Camas. Students attended the various classes during the past school year from the

Winners of Honor Awards . . .

Fourth-year honor students get week's expense-paid trip to CZ's Northern mills. Seated (l to r): MAURICE W. BURKE and CHAS. W. HOXIE JR., both Camas; Standing: FRANKLIN TERRELL and MICHAEL McCUTCHEON of St. Helens, WILBUR BRUNELL and VERLIN COTTON, West Linn.

CZ third year honor students (l to r): L. B. ZURCHER and K. P. WARNEKE, St. Helens; H. B. RILEY and ELMER C. MAYS, West Linn; FRED BERNARD, North Portland; DON CAREY, Camas.

Honor winners of second-year class. Seated (l to r): W. W. ALTREE, Western Transportation Co., RICHARD HOWELL, West Linn; Standing: L. A. KELSON, Camas, FRANCIS KING, Portland Office, D. K. OLSON, West Linn, JOSEPH KACIN, Camas.

Win honors in first-year class. Steated (l to r): J. L. CLARKE, Camas, HAROLD LAMB, West Linn; Standing: FREDERICK MIRANDA, Camas, FRANCIS COE, Portland Office, LEONARD OGAN, West Linn, CHARLES A. HENKE, St. Helens.

Portland offices, West Linn, St. Helens, Camas, the Molalla woods operations and Portland divisions and subsidiaries.

Conditions under which the program originally started were apparently considered transient. A Camas mill directive in 1933 stated: "Changes incidental to acceptance of the NRA Code have produced a considerable turnover of labor. Backtenders have been promoted to machine-tenders; men have shifted from one department to another, from lesser responsibilities to positions requiring more detailed technical knowledge. It would appear necessary to supplement mill instruction by means of an intensive study course."

For this inauspicious start, 190 made application and 55 completed this first-year course and 14 of the original students graduated from the first fourth-year class of 1936-37. Enrollment grew in the pre-war years until 1942 when 41 fourth-year students graduated—exceeding any but the 1956-57 class which also had 41 students completing the entire course.

Of those 55 men who successfully completed the original first-year course, 52 are now with CZ in supervisory or higher capacity; 13 of them in managerial or executive positions ranging to and including assistant vice president.

Students of the Camas school receive full college credit for their studies at the University of Washington and by Oregon State College. The school has its own text book, "Making Paper," a 700-page volume now in its third edition.

Teaching Program is Outlined . . .

A. W. Neubauer, principal of the school and supervisor of coating and sizing at the Camas mill, outlined the CZ Paper School teaching program as follows: "The first year takes the student through production phases from the woods to pulping operations, including bleaching. Second year courses continue on with production processes, including refining, papermaking, finishing, converting, mill maintenance, and has lectures on research, sales, production planning, shipping-storage, purchasing, accounting and mill management. During these first two years the student spends about one hour on mill visits for each three hours of classroom instruction.

"The third and fourth year courses cover approximately the same operational phases but more comprehensively. First quarter of the third year is devoted to wood preparation—from CZ tree farms through the wood mill; second quarter concerns kraft mill, bleaching and screening; third quarter, sulfite mill; fourth quarter, beater room operations. In the fourth year the respective quarters are devoted to paper machines and finishing operations; converting—tissue, towel, waxing and bag factory operations; maintenance and service (steam, electric) departments, mill engineering; quality control with emphasis on significance of various tests.

"The upper-class curricula call for 16 hours of operational study in the mill per quarter on the student's own time. In doing this he punches his time card in and out and must have

Graduates of 1957 CZ Third-Year Class

FIRST ROW (left to right) Calvin P. Horn, Harold P. Miller, Leonard J. Rowett, Omer B. Hale, Robert J. Heater, Vernon A. Burns, Raymond W. Nordstrom, Richard F. Clarke, Carlyle E. Gentry, Harold F. Riley. **SECOND ROW:** Raymond E. Mikesell, Lyle H. Ryan, Willis W. Waddle, Laurell T. Johnson, Everett L. Shaw, Douglas F. Miller, Ronald H. Johnson, Henry T. Boss, Arthur O. Perrault, Fred D. Bernard. **THIRD ROW:** Howard H. Becker, Hugh B. Riley, Donn J. Carey, Hubert L. Sparrow, Elmer C. Mays, George W. Reed, James H. Robinson, James L. Stoll, Henri VanTricht, Homer D. Graham, Allen K. Haller. **NOT IN PICTURE:** Paul C. Anderson, Sangho Back, Max W. Brower, Eugene D. Frost, John H. Sayles David K. Sturdevant, Kenneth P. Warneke, L. Burton Zurcher.

mill visits verified by supervisory personnel, in the department concerned, who initial the card entry. Approximately four hours are devoted to operational study per classroom hour."

Regents, and Faculty . . .

A board of regents heads up the school's organizational structure. Members are R. O. Hunt, vice president—operations, CZ San Francisco headquarters, F. O. Boylon, resident manager, Camas, and M. J. Otis, resident manager, West Linn. Another three-man board has charge of functional administration; its members are Dean A. M. Cady, assistant supt. of general mill maintenance, Camas, Associate Dean C. A. Enghouse, assistant resident manager, West Linn, and Principal Neubauer.

The faculty staff (from Camas unless otherwise designated) includes: Prof. First Year Class R. G. Stewart, asst. sulfite mill supt., Assoc. First Year Prof. C. W. Davidson, tech. supervisor, Prof. Second Year Class W. L. Rich, head bag factory inspector, Assoc. Second Year Prof. Russ Lawton, div. ind. engr., Prof. Third Year Class H. L. Ostenson, asst. paper mill supt.—tissue, Assoc. Third Year Prof. P. M. Schnabel, Jr., pulp mill supt. (St. Helens), Assoc. Third Year Prof. R. G. Carter, div. ind. engr. (West Linn), Prof. Fourth Year Class M. R. Rivers, gen. supervisor—steam power maintenance and operation, Assoc. Fourth Year Prof. J. E. McCourt, tech. asst. to paper mill supt.—wrap, Assoc. Fourth Year Prof. E. A. Woodworth, tech. asst. to filter plant supervisor (West Linn), Assoc. Fourth Year Prof. H. C. Hall, asst. supt. converting, finishing and shipping (St. Helens), Administrative Asst. L. E. Semke, development chem. engr., Asst. Administrative Asst. C. T. DeVoe, inspector—maintenance and control dept., and Registrar Leona Blair.

Each of this year's 41 fourth-year class graduates received, in addition to a diploma, a copy of the CZ text book ("Making Paper") and a two-year subscription of PULP & PAPER. Honor awards, consisting of a week's expense paid visit to Crown's northern mills, were conferred on six members of the class. Various textbooks were prizes awarded in other classes.

Registrar . . .

LEONA BLAIR, CZ Paper School Registrar and Stenographic Dept. Supervisor at Camas plant.

New Sodium Chlorate Plant To be Built in South

American Potash & Chemical Corp. is starting construction of a $5,000,000 sodium chlorate plant on a 586-acre site on the Tombigbee River, seven miles outside of Aberdeen, Miss. Completion is scheduled for mid-1958.

Initial production rate will be 15,000 tons of sodium chlorate per year, with provision for possible expansion into other chemical fields.

The new facility marks AP&CC's first venture east of the Mississippi for the manufacture of its Trona electrochemicals. When in production, it is believed AP&CC will be the largest producer of sodium chlorate in the western hemisphere.

Aberdeen was chosen because of low-cost electric power available from Tennessee Valley Authority and because of Aberdeen's strategic location in the heart of the expanding Southern pulp and paper industry.

American Potash & Chemical Corp., currently manufactures sodium chlorate at Henderson, Nev., as well as potassium chlorate, ammonium and potassium perchlorate and manganese dioxide. AP&CC is also a major producer of borax, lithium, salt cake, soda ash and potash. Other facilities are at Los Angeles, Whittier and Trona, Calif., and San Antonio, Tex., site of the subsidiary American Lithium Chemicals, Inc.

Looks to Canada

DR. AXEL L. WENNER-GREN, Swedish industrialist, is backing vast development program in British Columbia.

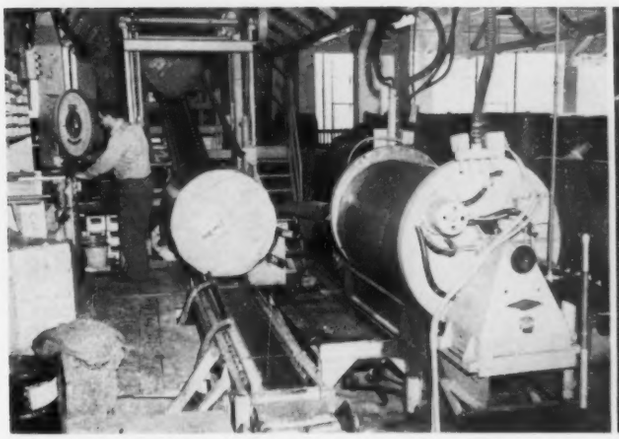
Wenner-Gren Interests Survey for Pulp Mill

Rankin & Co., Toronto, has been engaged by the internationally much-publicized Wenner-Gren interests to survey the possibilities of a pulp mill in British Columbia's Rocky Mountain Trench area as part of a vast development program contemplated by the Swedish multimillionaire industrialist.

An agreement has been signed with the British Columbia government whereby the Wenner-Gren group is authorized to explore and survey 40,000 square miles in the Omineca district with a view to industrialization if found feasible and the prospective construction of a 400-mile railroad to the Yukon and possibly beyond.

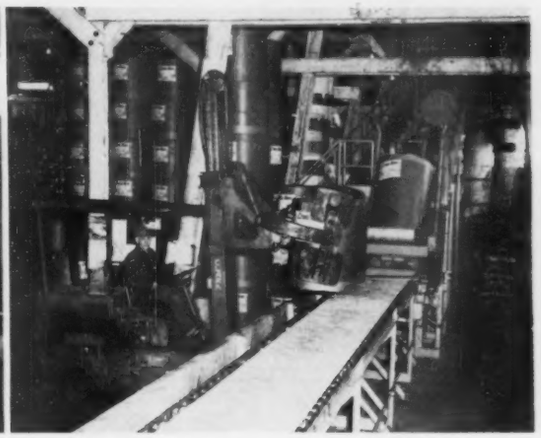
Mr. Wenner-Gren, who has established an office in Vancouver, has made a payment of $500,000 to the government as a guarantee of good faith, and contracts are being placed to a total of approximately $5,000,000 to various companies participating in the survey. In addition to Rankin & Co., the following are included: Ebasco Services, Inc., New York; Hans Lundberg, Lundberg Explorations, Toronto; British Thomson Houston Co., London.

Extensive hydro-electric and mining operations are being considered as a part of the overall project. While there has been some opposition to the plan, the provincial government has given its approval.



Rolls Start Here on 1,000 Ft. Conveyor . . .

From Lamb-Grays Harbor header, over Detecto scales, and on their way . . .



Where Rolls Are Taken Off Long Belt . . .

Automatically up-ended, two are taken off at a time by Clark grab fork-lift truck . . .

A 1,000 Ft. Ride For Newsprint Rolls

• Newsprint rolls are handled in an unusual way at Crown Z's Port Angeles, Wash., mill—a "How To Do It" idea that was developed by the mill staff and engineers. The jumbo rolls are wrapped at the rewinder station, and are taken on paper dollies to the finishing room. Heads are placed on the rolls in an automatic Lamb-Grays Harbor roll header, and rolls are weighed on a Detecto scale, labeled and carried on a belt conveyor about 1,000 ft. to the shipping dock.

The rolls are conveyed on the "bilge"—on their sides, instead of upright. When the belt carries them to the shipping dock, a contact switch mechanism automatically raises each roll from the bilge to an upright position. They are placed on another conveyor so that two rolls at a time move into position where they can be handled by a Clark two-roll grab fork-lift truck.

The lift truck takes the rolls to storage, to rail car, or to truck trailer.

Improvements Made At Port Angeles

While there is still a newsprint shortage, which most observers expect to ease with new production in late 1957, the Port Angeles, Wash., mill of Crown Zellerbach Corp. is doing its bit by rolling approximately 500 tons a day from three machines. The farthest northwest mill in U.S.A., on the Strait of Juan de Fuca, has recently increased its tonnage.

Port Angeles was the first newsprint mill on the continent to install the Beloit suction pickup machine, which makes possible high speed transfer of the sheet from Fourdrinier into press section. By reducing greatly paper breaks at high speeds, the suction pickup makes much higher speeds possible. The Port Angeles mill now has installed the pickup arrangement on two of its three machines. Groundwood capacity is presently being expanded.

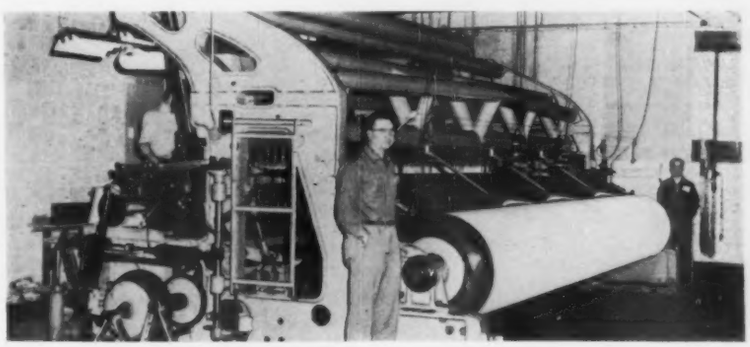
The first pickup transfer or suction pickup (and the second in America) was installed on No. 2 machine at Port Angeles. This is a 165-in. Fourdrinier which trims 154 in. Speed on this machine was gradually increased 200 fpm.

The second suction pickup was installed on No. 3, a much wider machine. It is 237½ in. wide and trims 225 in.

The pickup transfer has also increased speed on No. 3 by 200 fpm.

No. 1 machine will be improved further by the installation of a Beloit pressure headbox and Bauer Centri-Cleaners.

Increased horsepower is being provided for grinders. New 3,000-hp Westinghouse motors are replacing some of the older 1,200 hp motors. A Drew Engineering steam recovery system has been in for some time and this is recovering steam from grinders for mill use.



New Looms Boost Production

Two new 256-in. looms are now in operation and a third is under construction at Wisconsin Wire Works, Appleton, Wis. These free-falling Fourdrinier looms are about 26 ft. wide over-all and weigh 35 tons each. They are 20% to 25% faster than most looms of comparable size. JAMES WATSON, vice president and gen. mgr., in foreground.

PULP & PAPER

PICTURES OF PEOPLE IN THE NEWS

New Duties in New England

RUDOLPH (RUDY) T. GREEP (left), is new acting mill manager at S. D. Warren's Cumberland Mills, succeeding Everett P. Ingalls, who continues as vice pres. in charge of mfg. Mr. Greep has been with Warren since 1934, became pulp supt. in 1946, production mgr. in 1949. He is married, has two children. He was born and raised in the Plains states of the West. J. H. (PETE) HEUER (right), has succeeded Charles M. Carrier as manager of mfg. for Great Northern Paper Co. Mr. Carrier retired. Mr. Heuer is a ch.e. graduate from U. of Washington, Seattle, and came to Great Northern from St. Regis as tests bureau supt. He became asst. mgr. of mfg. last July.

In News of Northeast

ALLAN J. NAUGLER (left) in new post of assistant to general supt. of Eastern Corp., Brewer, Me., paper mill. A native of Brewer, he joined Eastern in 1935, has worked his way up through ranks for 18 years. Helped develop new materials handling procedures; reorganized paper mill operating office, installed new order processing methods.

GEORGE F. VARGA heads new Roots-Connersville Blower Div., Dresser Industries, Boston district (945 Great Plain Ave., Needham 92, Mass.). D. A. Johann, RCB vice pres., said Mr. Varga will assume responsibility over sales in Mass., R.I., Vt., N.H. and Me. He is a grad of Duke U., with 15 years experience selling equipment to industry.

New Positions in Industry

R. F. CALDWELL (left), new president of E. B. Eddy Co. at Hull, Que., succeeds R. A. IRWIN who continues as president of Somerville Paper Co., a subsidiary. Mr. Caldwell has been with the company for 30 years, most recently as secy.-treas.

JOHN GUTHRIE (middle) was appointed mgr. of Columbia Cellulose Co.'s pulp mill at Prince Rupert. He had been mgr. of Alaska Pine & Cellulose's Port Alice mill. His experience has been wholly with sulfite pulps, including all dissolving and paper grades.

SIDNEY M. COLLIER (right) becomes res. mgr. & assistant to pres. of Spaulding Pulp & Paper Co., Newberg, Ore. Prior to joining Pulp Bleaching Co. and Gaco Western in executive capacity in 1953 he was supt., Pulp Div., MacMillan & Bloedel mill, Harmac, B.C., and asst. supt. at Puget Sound Pulp & Timber Co., rounding out nearly 30 years affiliation with Pacific Coast mills.

Join Black-Clawson

C. W. (BILL) CONVERSE (left) has been appointed a director of Black-Clawson International, Ltd. of London and of Lyddon & Co., Ltd. of London, according to announcement by KARL F. LANDEGGER, chairman of the board of Black-Clawson and pres. of Parsons & Whittemore, Inc. Mr. Converse will be in charge of pulp and paper mill machinery and project sales for Lyddon and technical advisor to sales engineering departments on sales projects in pulp and paper mills throughout the world for Black-Clawson International, headquartered in London. He has been manager, pulp and paper mill division, Sprout Waldron & Co. for eight years and is well known in the industry in the U.S. and abroad.

PAUL TORRE (right) has joined Shartle div. sales staff, according to DON MONTVILLE, Shartle mgr. of sales. Mr. Torre has 22 years practical papermaking experience with Kimberly-Clark, Dunn Paper and Michigan Paper Co. He is assigned to Black-Clawson Eastern Sales office, 27 E. Lancaster Ave., Downingtown, Pa.

Honor Employes at Two Mills

Vice Pres. E. P. STAMM (left), who presented service pin awards to 137 recipients of West Linn (Ore.) Division, congratulates Sulfite Supt. EDWIN J. ROAKE who received 30-year pin. Res. Mgr. MALCOLM J. OTIS (center) extended official welcome to participants.

F. O. BOYLON, (left), res. mgr. of Camas Div. where 152 service awards were bestowed, presents 20-year pin to R. E. LAWTON, supervisor of industrial and community relations.

Promotions in Middle West

A. M. SCHMALZ (left) has been elected vice president of Thilmany Pulp & Paper Co., Kaukauna, Wis., Pres. E. H. JENNINGS announces. As production mgr. and in other positions, Mr. Schmalz has had a long career at Thilmany and as a young man served in the army at Fort Vancouver, Wash.

Appointment of CHARLES R. MULCAHY (middle) as Div. A mfg. supt. is announced by R. E. KISSEL, gen. mfg. supt. of Charmin Paper Products Co. Formerly tech. asst. to Mr. Kissel, Mr. Mulcahy has been with Charmin since 1954, has m.s. degree from Georgetown U.

W. J. WOOLLEY (right) is promoted to exec. vice pres., Henry Pratt Co., Chicago. Mr. Woolley joined Pratt in 1941 and has been vice pres. for sales since 1951.

J. W. MILLER

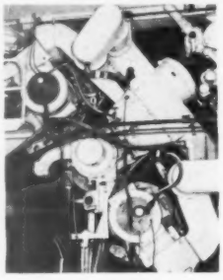
Beloit Suction Rolls Since 1925 Beloit has supplied more than 2,000 suction rolls to the paper industry. Over 30 years' experience in designing and building suction rolls is reflected in today's modern Beloit Roll with its design improvements and new applications to industry progress. For details, please turn page.

BELOIT SUCTION ROLLS

...improved design makes possible new machine arrangements for higher speeds and production today...and tomorrow

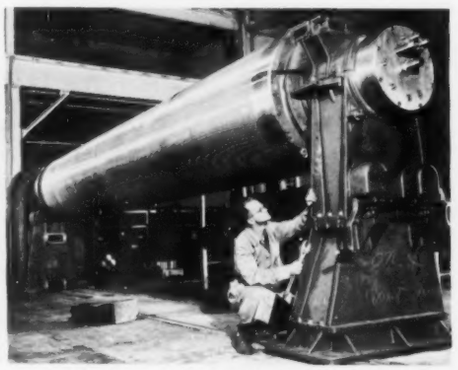
Since 1925 many improvements have been made in Beloit suction roll design. Beloit engineers, utilizing the experience gained through years of suction roll operation, have constantly improved design and developed new applications to keep pace with industry progress.

Increased water removal through the use of Beloit suction rolls is one among many practical gains. Other gains have resulted from new drilling patterns; improved shell metals for higher nip pressures; new applications and arrangements which have made possible higher speeds and increased production without sacrifice of quality.



Still other Beloit contributions include modern antifriction bearing design, assuring long life and minimum maintenance; air-loaded sealing strips; new mounting designs to facilitate wire and felt changes.

Since 1925, too, there has been continuing research and emphasis on silencing of suction rolls. Beloit design silencers, in combination with drilling patterns, have been successful in lowering the noise level of suction rolls.



The introduction of Beloit suction (vacuum) pickup and transfer, combined with new press section arrangements to secure maximum water removal, have resulted in higher machine speeds, safer running, and record production rates on practically all types of paper.

There is no substitute for experience! So specify Beloit Suction Rolls . . . designed and built in the Beloit tradition of craftsmanship . . . of proved quality and performance since 1925.

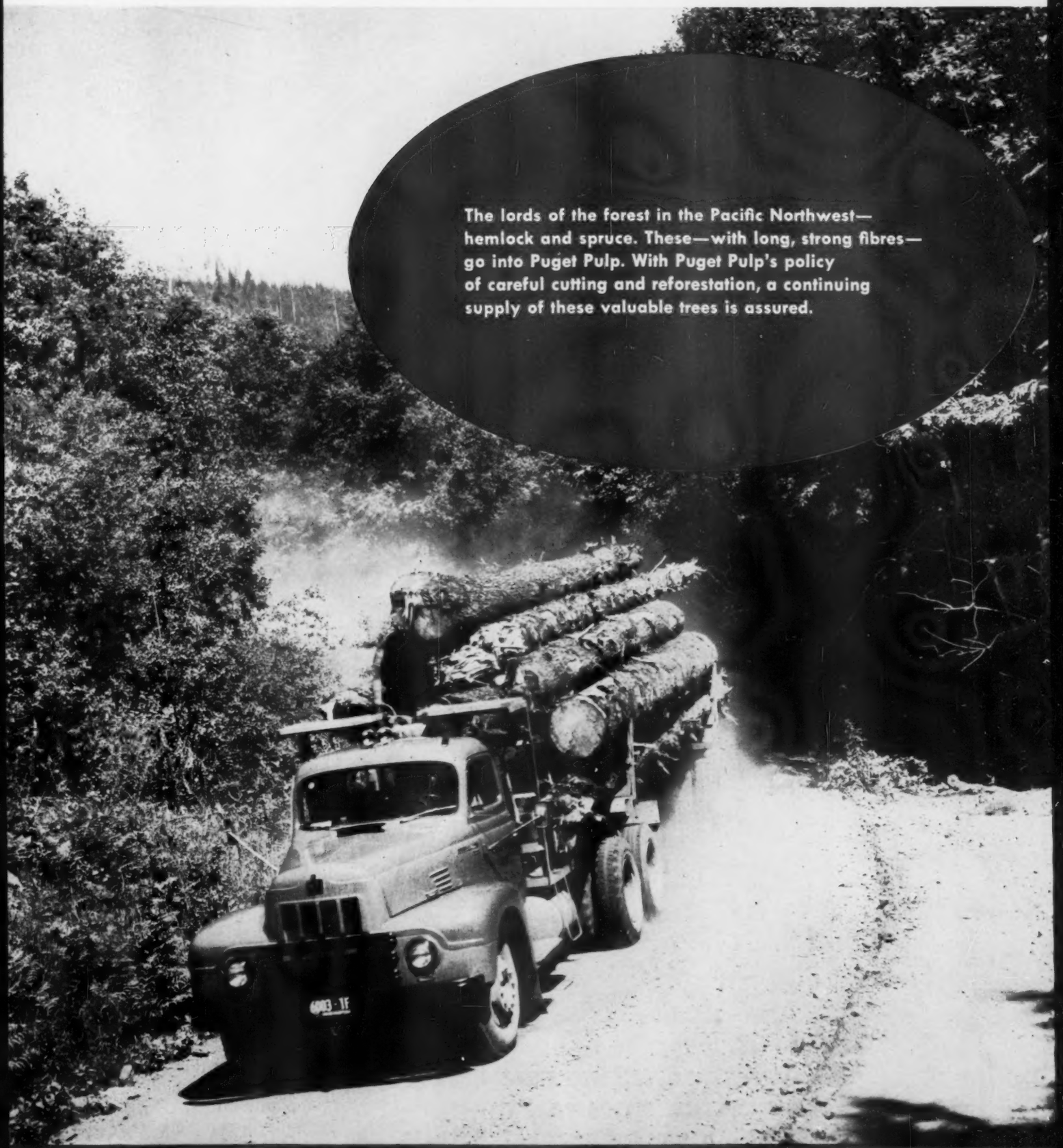
your partner in papermaking **BELOIT**

PAPER MACHINERY

BELOIT IRON WORKS • PAPER MACHINERY • BELOIT, WIS., U.S.A.

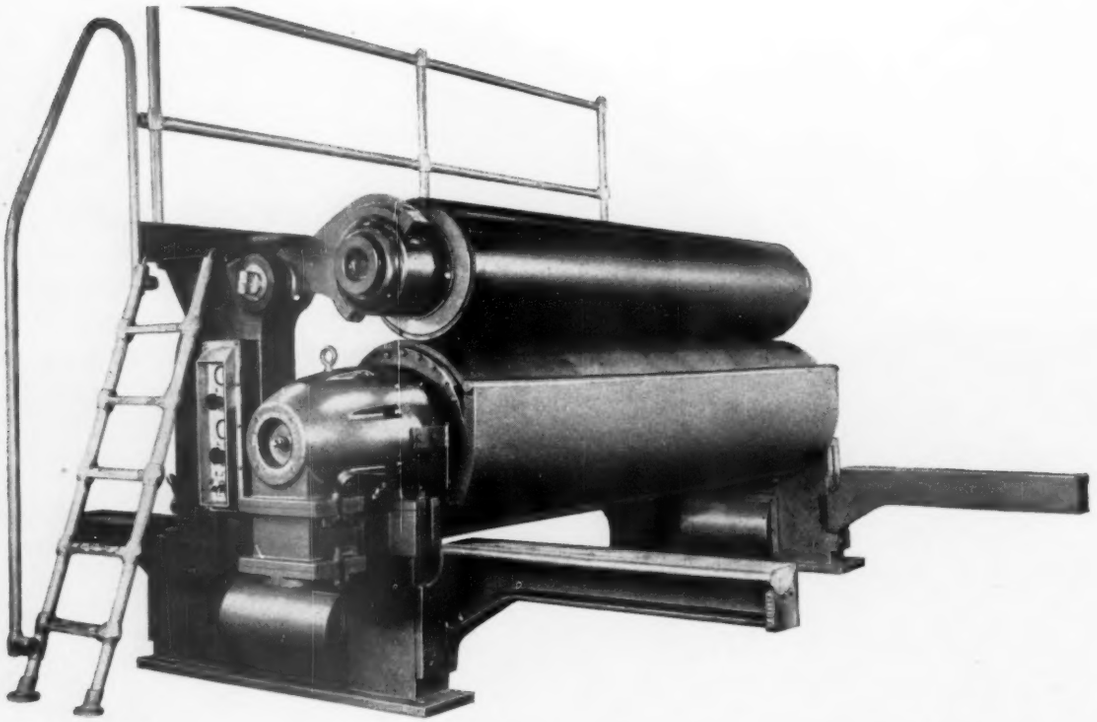
WHEN YOU BUY BELOIT...YOU BUY MORE THAN A MACHINE

Only the Best goes into Puget Pulp



The lords of the forest in the Pacific Northwest—hemlock and spruce. These—with long, strong fibres—go into Puget Pulp. With Puget Pulp's policy of careful cutting and reforestation, a continuing supply of these valuable trees is assured.

PUGET SOUND
PULP AND TIMBER CO.
BELLINGHAM, WASHINGTON



quality and profit start here

with a Manchester Suction Main Press

Here's what you get with a Manchester Suction Main Press:

1. More complete water removal.
2. Better moisture control.
3. Less Broke.
4. A higher drying rate.
5. Cleaner felts. Longer felt life.

All this adds up to a more uniform top-quality sheet with better profit and a stronger competitive position for your mill.

This simple, compact and ruggedly designed press is engineered as a complete unit, ready to install in your present machine with no expensive changes and prolonged shutdown.

Write us for complete information applied to your needs.

THE MANCHESTER MACHINE COMPANY

MIDDLETOWN, OHIO

SPECIALISTS IN DESIGNING AND BUILDING PAPER MILL MACHINERY

Sulphur

helps to create headline products

ALUMINUM

Surely a 'headline product' even if not new! Aluminum is very much in the news today for it is playing a leading role in our steadily expanding economy.

What's all this got to do with Sulphur?

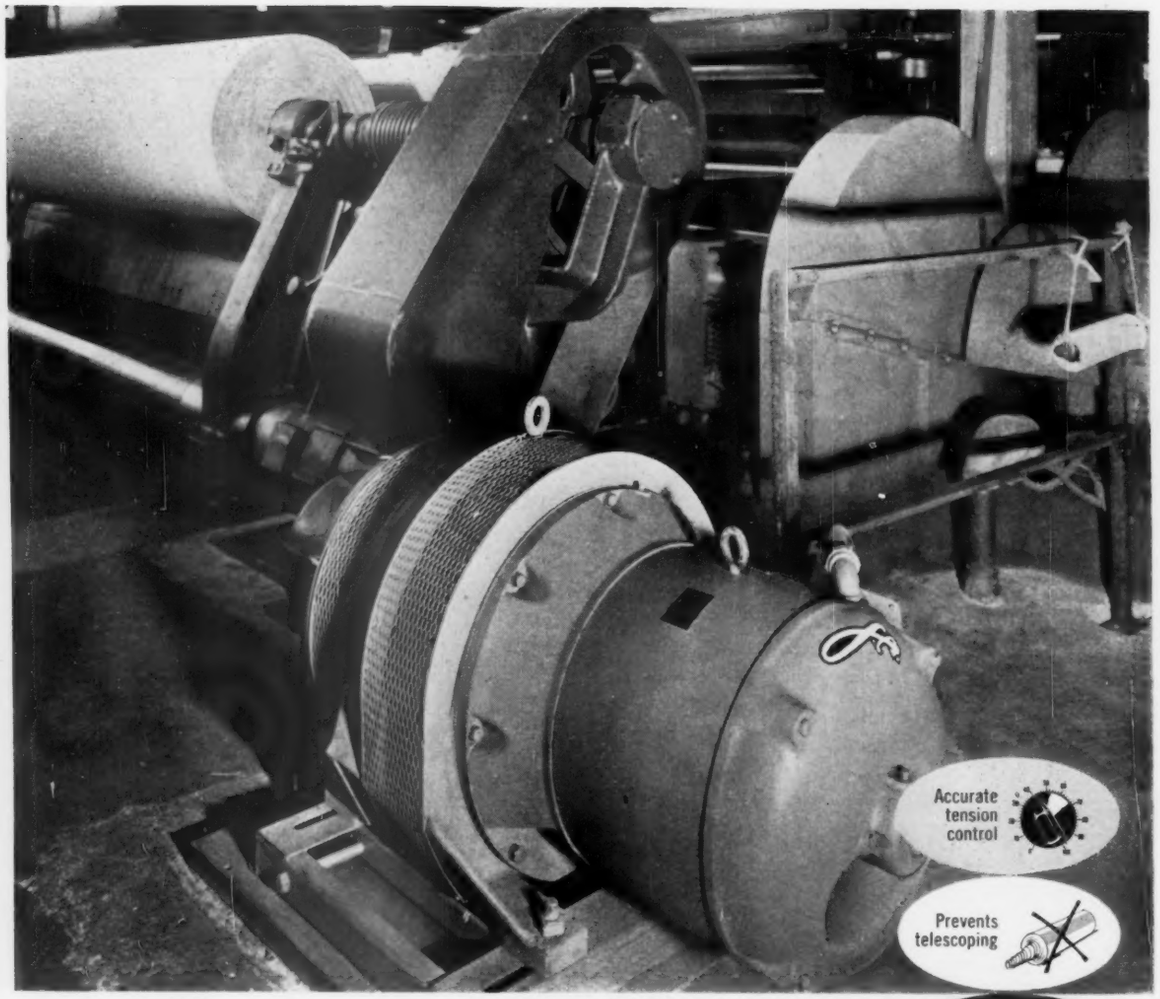
It's like a chain reaction. Demand for this remarkable light metal is increasing. This calls for more ore development and additional mills for the reduction of alumina to aluminum. More cryolite is needed for fluxing the molten alumina in the electrolytic cells.

True, cryolite (Na_3AlF_6) is found in nature but there just isn't enough tonnage to satisfy its many uses. So, to fill the supply gap, cryolite is being synthesized from fluorspar. It is here that Sulphur enters the picture, for one of its widely used derivatives – Sulphuric Acid – is a key reaction agent.

Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N.Y.
811 Rusk Avenue, Houston 2, Texas

Sulphur Producing Units
- Newgulf, Texas
- Moss Bluff, Texas
- Spindletop, Texas
- Worland, Wyoming



Where tension pays off

Louis Allis adjustable speed drives provide soft start . . . controlled acceleration . . . smooth pick-up after roll changes

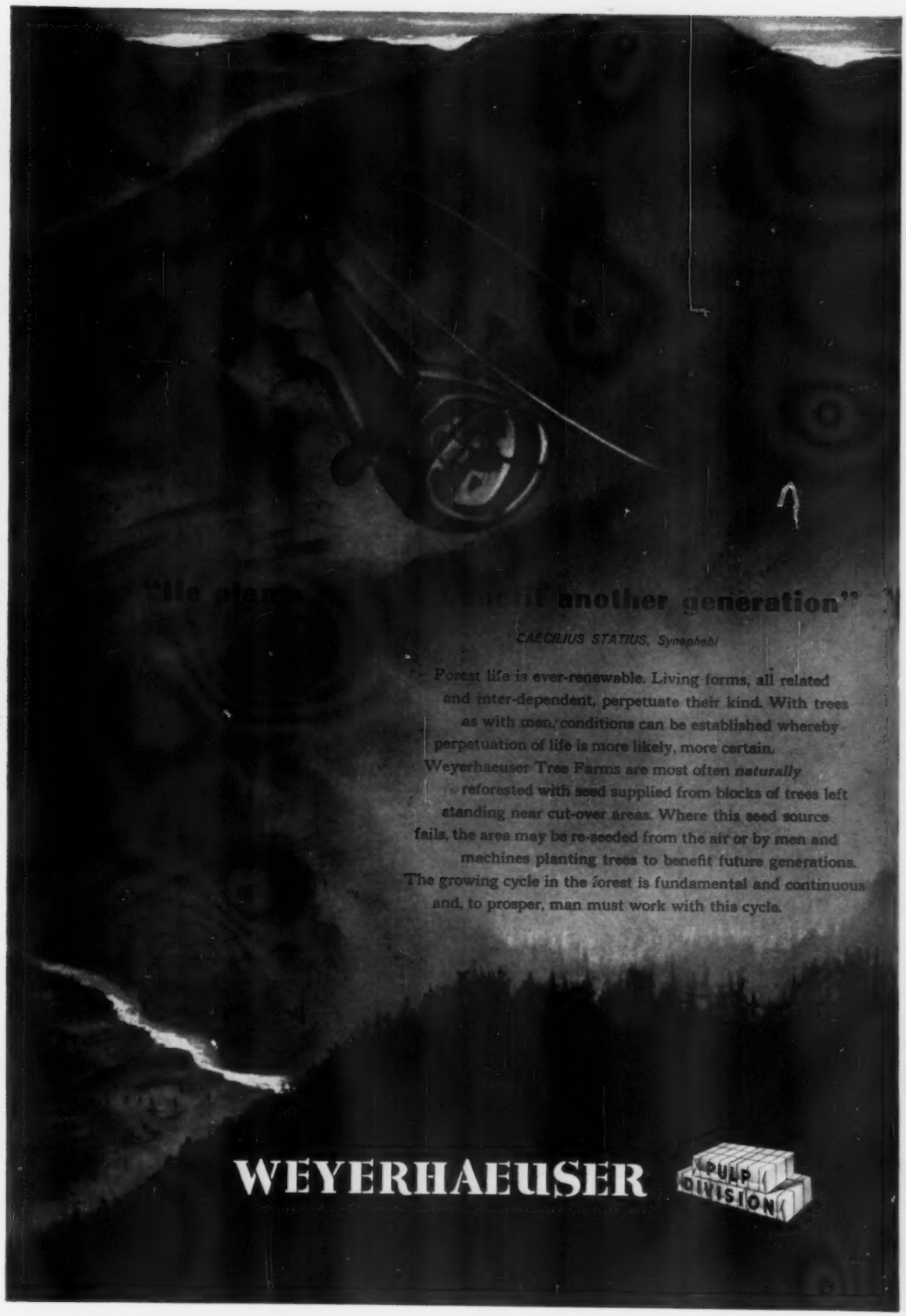
Paper-winding operations (above) rely on tension . . . accurately applied. That's why you'll find Louis Allis Ajusto-Spede® drives on those center-winding operations where precise speed control saves time, paper, and handling . . . eliminates operator fatigue and its resulting inefficiencies and costly waste.

For operations requiring up to 75 hp, Ajusto-Spede® delivers the exact speed you want, when you want it. This accurate Louis Allis adjustable-speed control permits smooth speed reduction for easy "on-the-fly" roll changes . . . glides into proper tension quickly and safely. And you get the same soft-start, superior performance whether you're handling delicate tissue or heavy board stock, parchment or paper.

Here are just a few of the features of this versatile adjustable-speed drive: linear speeds from 100 to 2,000 fpm — roll build-up ratios up to 15:1 — controlled tension from ½ to 10 lbs. per inch of width — inertia compensation for maximum acceleration rates — adjustable stalled tension for smooth starts. This precise tension control means greater high-speed production . . . less downtime on windup drives in all phases of paper manufacture. Contact your nearby Louis Allis District Office or write The Louis Allis Co., 444 East Stewart Street, Milwaukee 1, Wisconsin. Ask for Bulletin No. 611E.

LOUIS ALLIS

MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE SPEED DRIVES


"He plants ... for it another generation"
CAECILIUS STATIUS, Synephebi
Forest life is ever-renewable. Living forms, all related and inter-dependent, perpetuate their kind. With trees as with men, conditions can be established whereby perpetuation of life is more likely, more certain.
Weyerhaeuser Tree Farms are most often naturally reforested with seed supplied from blocks of trees left standing near cut-over areas. Where this seed source fails, the area may be re-seeded from the air or by men and machines planting trees to benefit future generations.
The growing cycle in the forest is fundamental and continuous and, to prosper, man must work with this cycle.
WEYERHAEUSER
PULP DIVISION

PROVED STRENGTH

in Every Link

Assures the Finest

LININGS and TILE TANKS

What specifications will best meet a given combination of chemical, physical and mechanical requirements? You can depend on Stebbins' unequalled experience (since 1884) and unequalled research facilities for the right answer.

And you can depend upon Stebbins' engineering and construction specialists for a finished job that meets these rigid specifications in all respects — backed by a firm guarantee of contract performance.

Write for Bulletin A-156

ONE CONTRACT

Stebbins installations can be made under a contract which covers everything, from the original design to the finished job ready for use, including maintenance.

SINCE 1884
Specialists in Design Installation and Servicing of Linings and Tile Tanks

SEMCO

STEBBINS Engineering and Manufacturing Company

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STEBBINS ENGINEERING CORP. — TOWER BLDG., SEATTLE, WASH.

CANADIAN STEBBINS ENGR. & MFG. CO., LTD. — TOWN OF MOUNT ROYAL, MONTREAL 9, CANADA

NOPCO OFFERS 21 WAX SIZES

to give your paper every combination of properties you want

Nopco Wax Sizes perform at least 4 important functions to help you make high quality paper and board that will give you an edge in today's highly competitive market.

1. Improve those properties which are difficult or impossible to obtain with rosin sizes.

2. Lower your sizing *costs* by replacing 30% to 50% of rosin size.

3. Improve the sizing of fortified rosin sizes.

4. Enhance the surface qualities of your paper and board, when used either alone or in conjunction with starch or other film-forming materials.

With any of these sizes goes the skilled counsel and wide experience of Nopco's paper technicians. They will welcome the opportunity to work with you on the toughest problems you have. Write today for their recommendations.
Nopco Chemical Company, Harrison, N. J.

NOPCO WAX SIZE SELECTOR CHART

	All Wax Acid Stable Nopco 1055 Series										Rosin-Wax Acid Stable Nopco 1155 Series				All Wax Alkaline Stable Nopco 1255 Series			Nopco Special Series			
	A	B	C	F	K	L	M	N	W	X	A	B	C	L	A	M	X	1245A	2252	KKE	KKE-1
Improved Finish	✓	✓	✓		✓	✓		✓		✓	✓				✓		✓	✓	✓		
Improved Fold	✓		✓				✓			✓					✓	✓	✓		✓		
Improved Calender Staining	✓									✓					✓		✓				
Oil Resistance							✓						✓			✓				✓	✓
Ink Resistance		✓	✓							✓		✓		✓			✓	✓	✓	✓	
Blood Resistance		✓					✓			✓				✓			✓	✓	✓		
Lactic Acid Resistance				✓				✓					✓								✓
Hot Liquid Resistance								✓					✓								✓
Grease Resistance		✓	✓				✓			✓											
Scuff Resistance		✓	✓				✓		✓	✓		✓	✓								✓
Printing Qualities	✓	✓			✓					✓	✓	✓	✓		✓		✓		✓	✓	
Starch Coating Lubricant	✓				✓	✓				✓					✓		✓	✓	✓		
Decrease Fuzz	✓	✓				✓				✓					✓		✓	✓	✓		

1907–1957 50 Years OF PROGRESS IN CHEMISTRY

NOPCO

PLANTS: Harrison, N. J. • Cedartown, Ga.
Los Angeles, Richmond, Calif. • London, Canada

New Stretch-Free* belt *eliminates* Paper Machine downtime

with Tanastic

high tensile strength and true elasticity means no tension adjustment, no belt shortening

Rhoads Tanastic is just what many Mill Superintendents are looking for. Here is a new, reinforced flat belt combining the glove-like grip of leather with the super strength of plastic! Just look at these cost-cutting, field proved advantages!

1. Delivers a smooth flow of power and maintains constant draws *without tension adjustment.*
2. Excellent shock absorbing qualities and very high efficiency consistently pull the full load.
3. Widely adaptable Tanastic features capacities to 500 HP and over, with belt speeds to 10,000 f.p.m.
4. Resists water and moist operating conditions as well as deteriorating action of excessive machine oils. Temperature ranges between −60° to +160°F have no effect on Tanastic.
5. Tanastic is well-suited to the taper of cone pulleys because its high tensile strength and elasticity permit narrower belt widths. Excellent lateral rigidity of the plastic center withstands the action of shifters.

For the full story on amazing new Tanastic write J. E. Rhoads and Sons, 2100 W. 11th St., Wilmington 99, Del.

**An elastic belt will return to its original length after tension is released but a stretchy belt will remain permanently distended.*

2100 W. 11th St., Wilmington 99, Del.

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INDUSTRIAL LEATHERS

A newer, higher standard
for whiteness, cleanliness, strength, opacity
and forming properties—
Alberta Hi-Brite Bleached Kraft Pulp.
Now in production.

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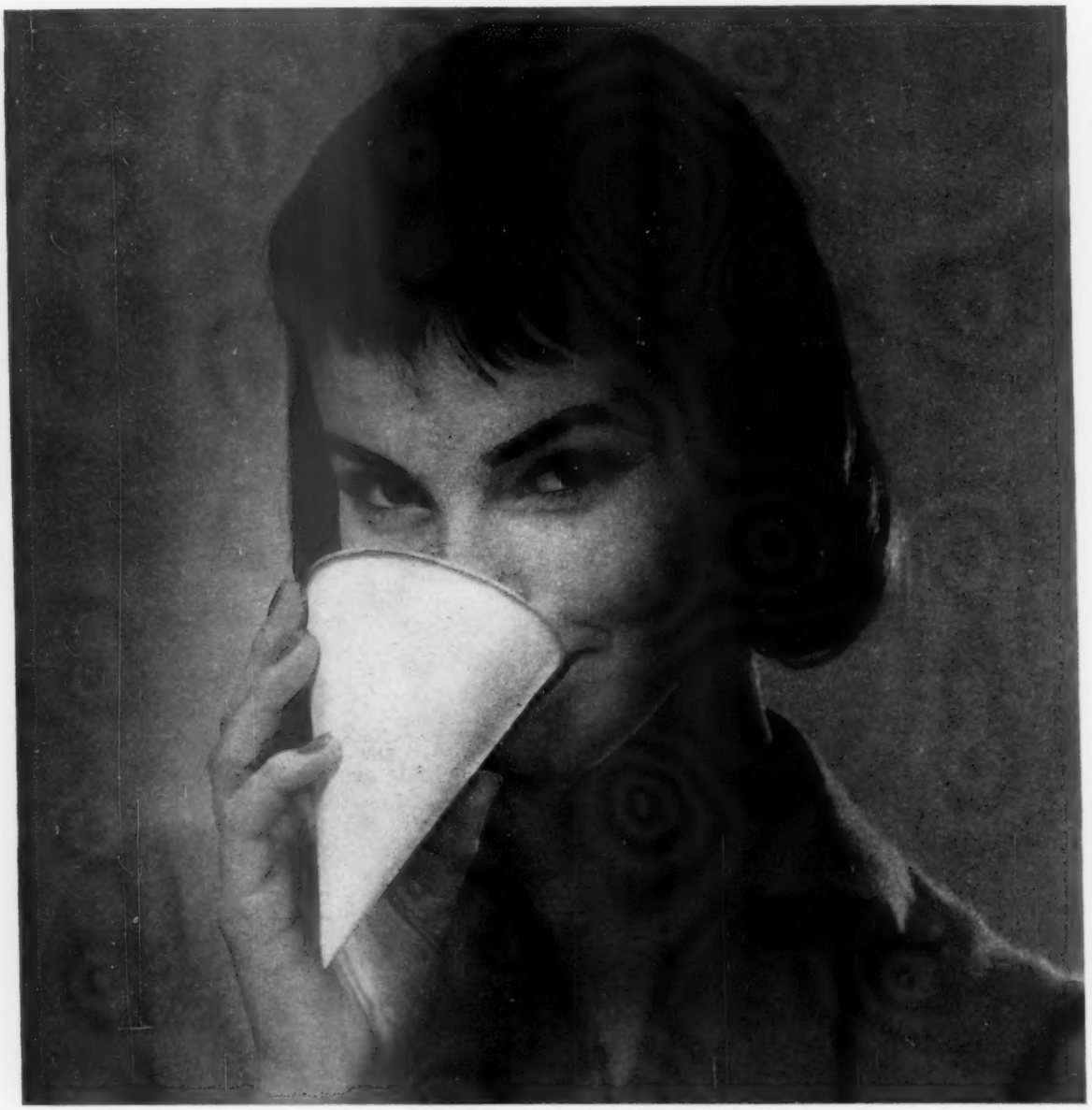


TITANOX* gives paper a bright new look

The remarkable optical properties of TITANOX white pigments are most aptly illustrated by their use in paper. To increase brightness and opacity of wax papers . . . to increase legibility in printing papers by reducing show-through . . . to eliminate dull backgrounds in packaging stocks . . . or simply to give a bright new look to paper cups—TITANOX is your first choice in titanium dioxide white pigments.

Our Technical Service Department will be glad to discuss with you the best use of TITANOX. Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; offices in principal cities.

TITANIUM PIGMENT CORPORATION

Subsidiary of NATIONAL LEAD COMPANY

4788

*TITANOX is a registered trademark for the full line of titanium pigments offered by Titanium Pigment Corporation.

EFFICIENCY—

another reason why "BUFFALO" pumps cost less to run

With the multitude of pumps in a paper mill, efficient operation can mean a substantial improvement in over-all operating efficiency.

Thanks to "Buffalo" design, you get the highest possible efficiency in non-clogging pumps. "Buffalo" enclosed impellers are inherently efficient *without* close clearances. Thus, wear and wedging do not occur with high consistency stocks — they flow thru the pump as easily as thru pipe. You enjoy year-after-year power savings, plus the savings of continuous trouble-free operation. This has proven-out over many years in hundreds of major installations.

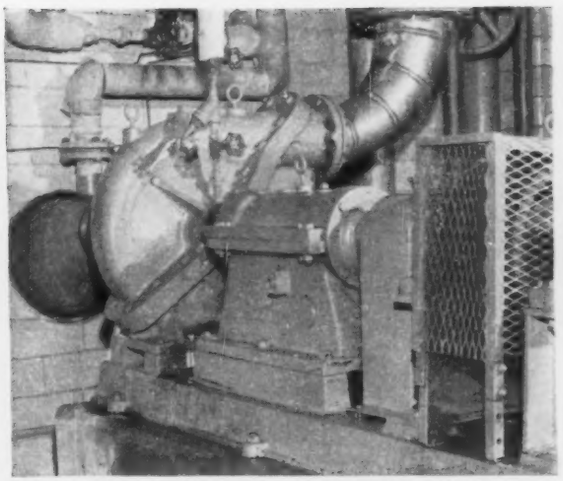
"Buffalo" builds a complete line of single and double suction pumps, each tailored to a specific service. Whatever the consistency, the head, the desired volume of flow or corrosive nature of your stock, you can match a "Buffalo" Paper Stock Pump to the job with full confidence of best results.

WRITE FOR BULLETIN 953-J TODAY!

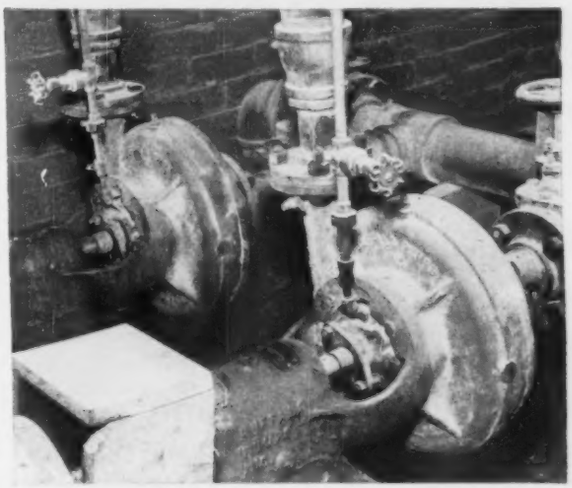
BUFFALO PUMPS
Division of Buffalo Forge Co.
220 Mortimer St. • Buffalo, N. Y.

Canada Pumps, Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

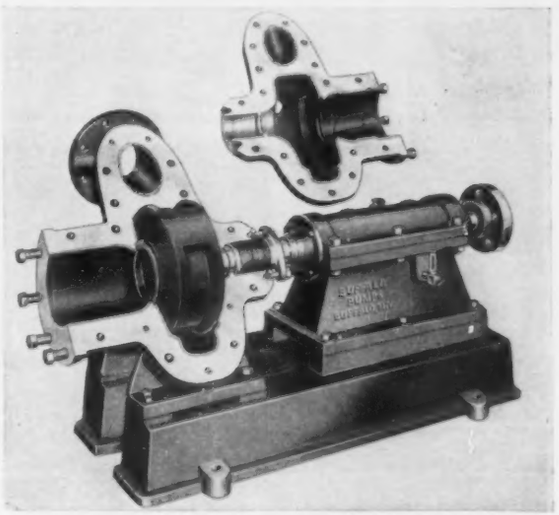
A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID



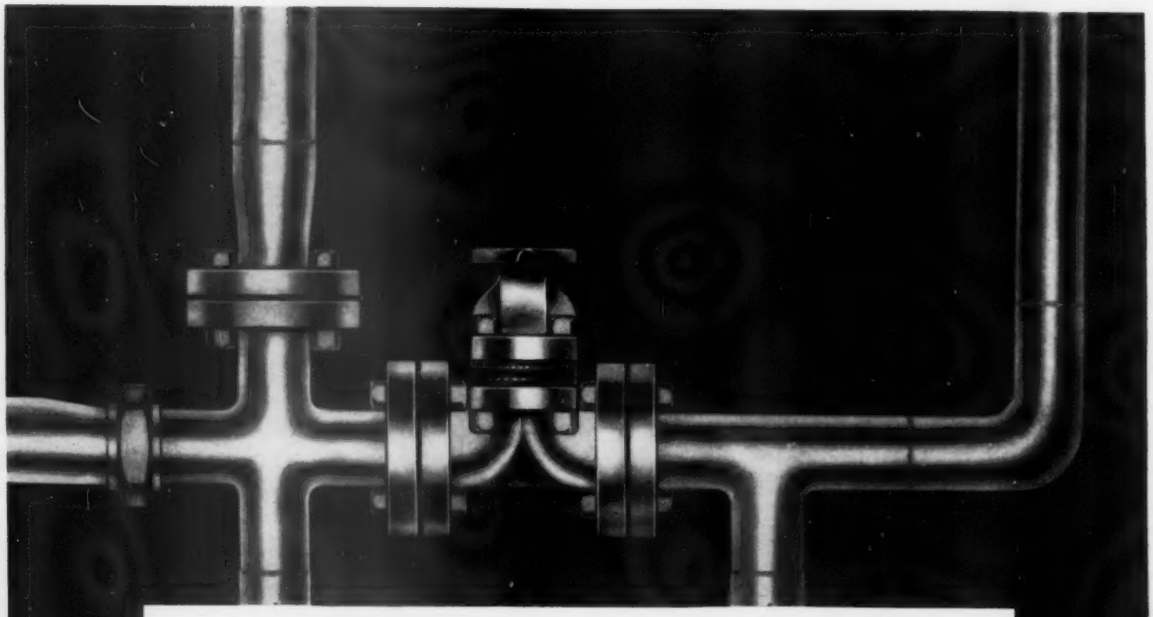
Handling stock at 4½% consistency, this "Buffalo" Diagonally Split-Shell Pump delivers efficiently day in and day out.



"Buffalo" Full Ball Bearing Pumps on circulation and agitation service at a large mill, still efficient after many years on the job.



Upper half of casing of "Buffalo" Diagonally Split-Shell Pump removed, showing full shrouded impeller, which does not depend on close running tolerances for its high efficiency.



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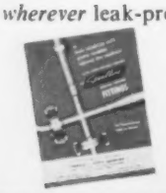
BEGINS AT THE FITTINGS!

Only *Speedline*® Corrosion-Resistant Fittings permit

- Multiple choice of joint with *every* fitting—*on the job!*
- Time and cost saving design and assembly for *any* piping installation!
- Use of *low cost*, light wall Schedules 5 and 10 stainless pipe!

. . . *wherever* leak-proof, corrosion-resistant piping is required.



Speedline Catalog describes important cost saving advantages for *your* application. Request a copy at no obligation.

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STAINLESS STEEL FITTINGS
THE NEWEST THING IN PIPELINE ECONOMY
SPEEDLINE DISTRIBUTORS ARE LOCATED IN PRINCIPAL CITIES FROM COAST TO COAST

Manufactured by **HORACE T. POTTS COMPANY**
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This revolutionary advance in Jordan plug design

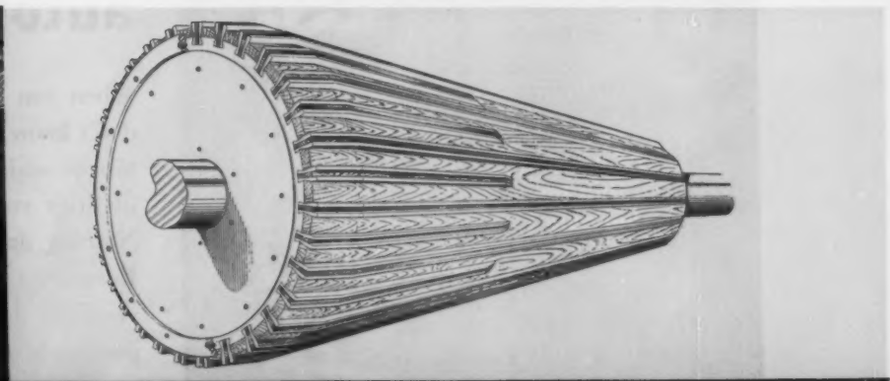
SAVES TIME AND MONEY FOR YOU

This new completely bandless Jordan plug is easier to strip, easier to fill. Inverted wedge type slots hold bars firmly in place, eliminate dangers of slot wear and corrosion. Slots and woods remain the same regardless of bar design — fillings can be readily changed without changing the plug.

Adapta-Plug is also available in Meehanite sleeve form for old plugs; removable, if desired, for easy changeover. Ask your Jones representative about this newest, strongest, most adaptable Jordan plug design today . . . or write us direct for complete details.

Photo shows how bars are grouped in pairs and wedged firmly in slots.

Jones Adapta-Plug



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BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

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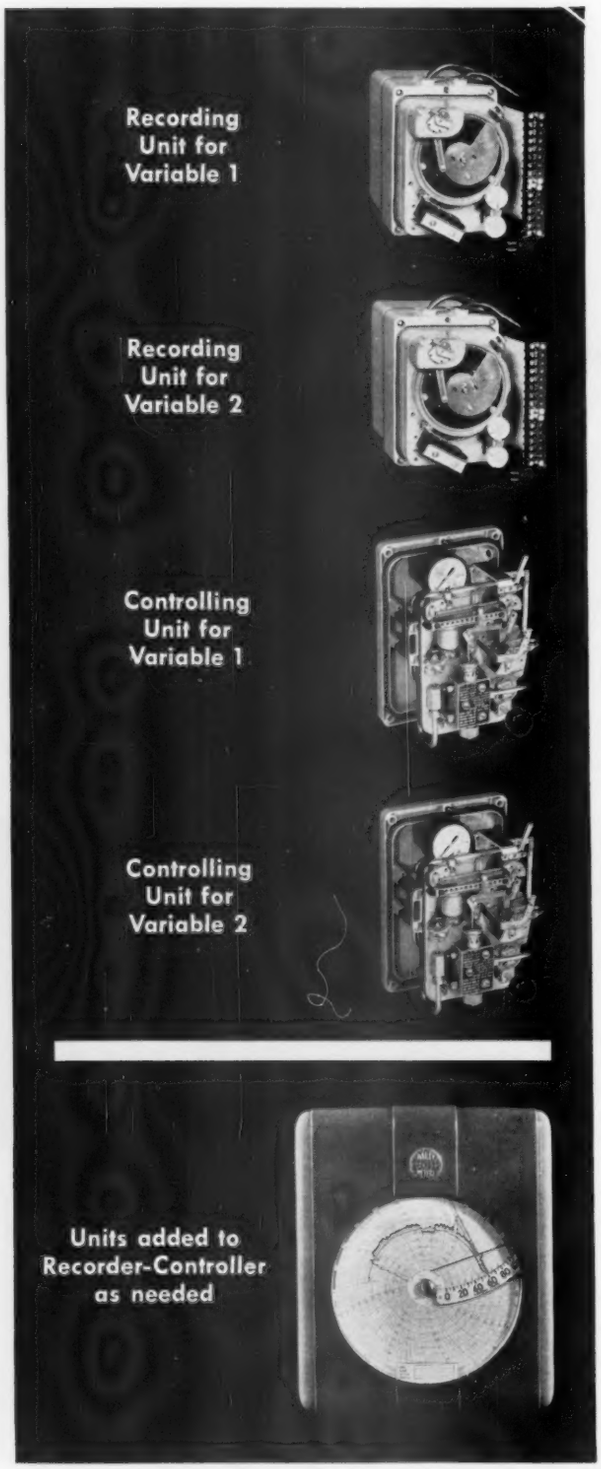
OVER 300 OF THESE FULBAR Shell Fillings now in use

A complete one-piece assembly, made to fit into the shell body of any Jordan, the Fulbar needs no keys or wedges. The ideal filling for an old Jordan that has had shell wear, Fulbar rigidity and accurate one-piece construction readily compensate for inequalities which would make precise fitting of a sectional filling a problem. Users report savings of up to 12 man-hours in installation time. Easy to grind in, too — and no sharp ends on bars to form strings or lumps. There are many new advantages. We'll gladly send you full details and the names of satisfied users.


Recording Unit for Variable 1
Recording Unit for Variable 2
Controlling Unit for Variable 1
Controlling Unit for Variable 2
Units added to Recorder-Controller as needed

Bailey Recorder is key to "step-by-step" automation

When you are pioneering a new process and don't know all the answers, complete automation is seldom practical. The first step is to identify your variables and measure them. Nothing does this job better than a Bailey Recorder. One instrument can record any four variables that can be converted to electric *or* pneumatic signals.

Once you get a better understanding of the variables in your process, you will want to add controls and feed back your measurements. Here's where the versatility of the Bailey Recorder comes into play. For the same Bailey instrument you use to record variables is designed to accommodate plug-in control units.

When you use a Bailey Recorder, you can build your instrumentation along with your process. At the start, you use only the plug-in units for recording. Then you add plug-in controls as you see the need for them.

For the complete story of how you can use a Bailey Recorder for step-by-step automation, see your Bailey Engineer. G-42-1

Instruments and controls for power and process

BAILEY METER COMPANY

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In Canada—Bailey Meter Company Limited, Montreal

BAILEY METERS

Shoes for where the wear occurs

For woodyard conveyors, A132WS with 6.050″ pitch and 50,000 lb. average ultimate strength.

For long center transfer conveyors, A111WS with 4.760″ pitch and 36,000 lb. average ultimate strength.

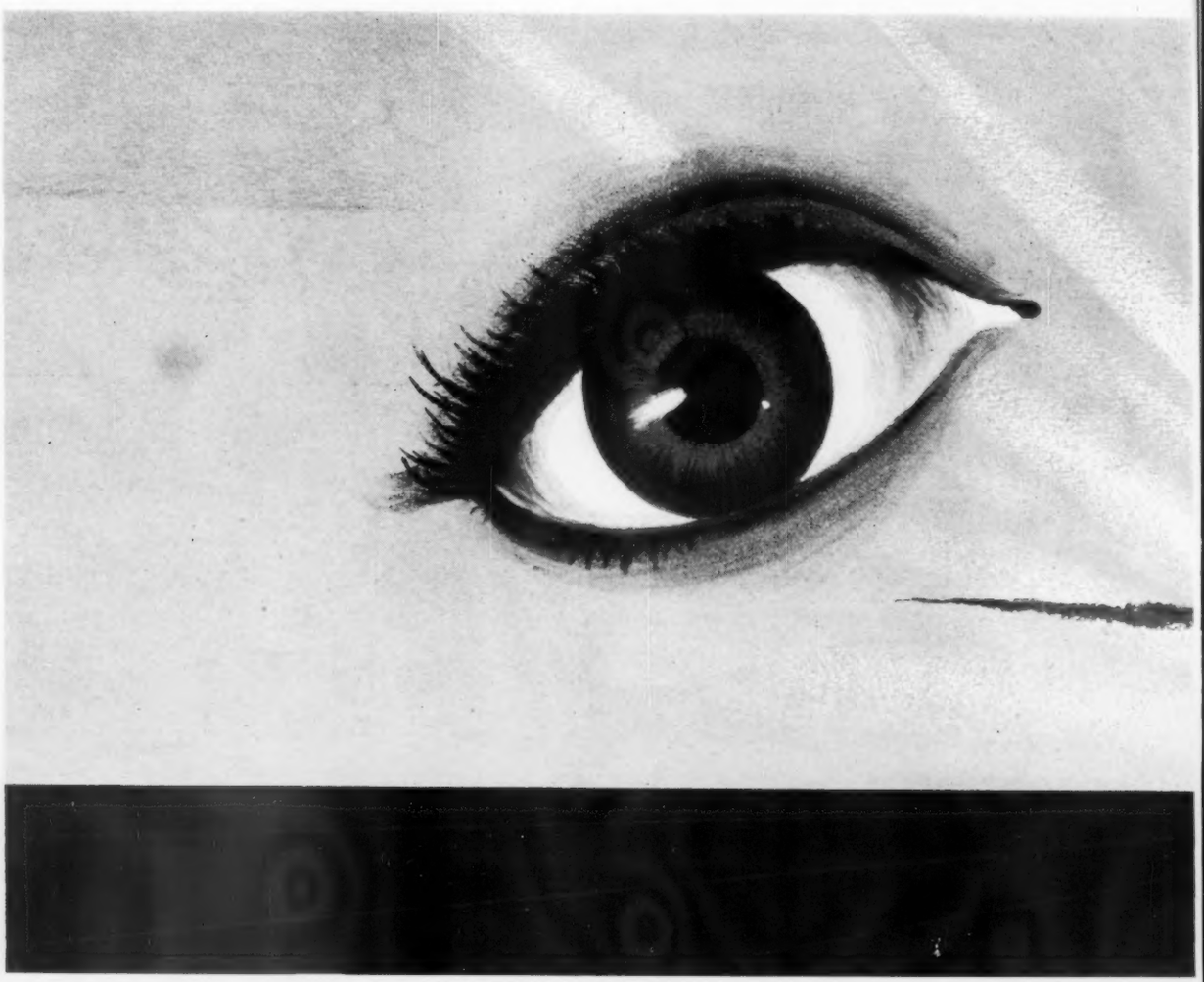
Right where the most sliding wear takes place, the new Rex Durobar WS Conveyor Chains are now reinforced with wearing shoes and rib. This adds life to the chain...lessens side play and side wear...minimizes repair and maintenance costs.

Rex Durobar WS comes in two sizes: A111WS for your longer center transfer conveyors and the even heavier A132WS for the toughest jobs like your woodyard conveyors. They're both great conveyor chains.

Consider these two Rex Durobar WS Chains for *any* conveyor application in the forest products industries where wear due to sliding may be a problem and longer chain life is desired. See your CHAIN Belt District Sales Office or Distributor or write for Bulletin 53-54. CHAIN Belt Company, 4691 West Greenfield Avenue, Milwaukee 1, Wisconsin.

CHAIN BELT COMPANY

Your ONE source for a complete line of power drive and conveyor chains, sprockets, roller bearings, flexible couplings.



Now see with your own eyes

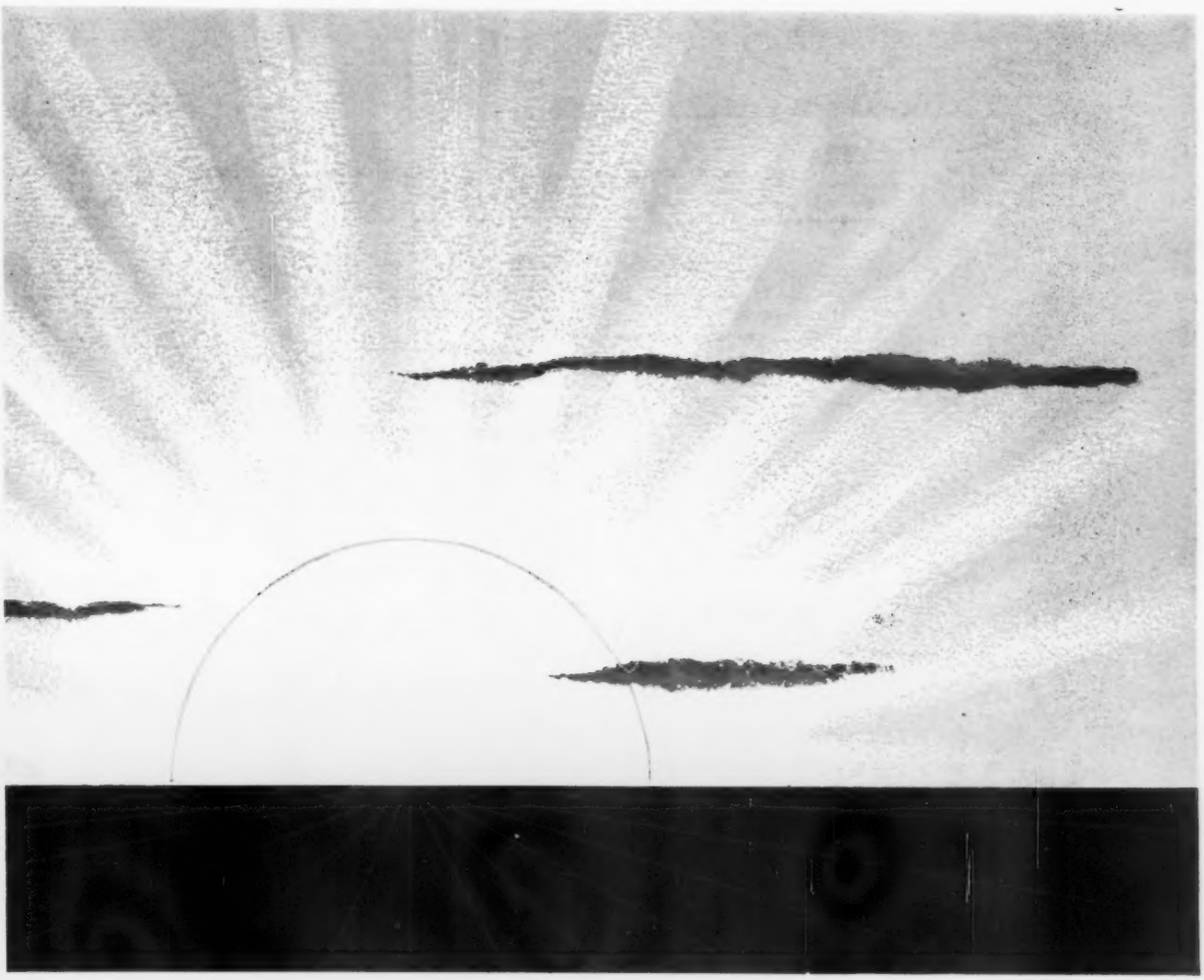
The Lightest Rosin

. . . and what they can

Claims are fine . . . but seeing for yourself is conclusive proof. Let your Cyanamid representative show you samples of the lightest rosin sizes available to paper makers. Estimate for yourself what these Cyanamid sizes can mean in terms of new whiteness and brightness in your paper.

There's no premium on this new size quality. You simply benefit from Cyanamid's recent product innovations. This means you can produce better papers with no increase in cost—or save on your whitening agents while maintaining present paper standards.

Actual samples of these tall oil rosin, gum rosin and pale wood rosin sizes—both straight and fortified—will show you immediately how much more value your sizing dollar can buy. Call in a Cyanamid Paper Chemicals representative and have him put the facts on *your* desk.



Sizes Ever Made

do for the brightness of your papers

CYANAMID . . . Largest Supplier of Chemicals to the Paper Industry

Your problems, and those of the entire paper industry, are the sole concern of Cyanamid's Paper Chemicals Department. Its success in meeting this challenge is evidenced by the Cyanamid line of paper chemicals—the largest in both volume and variety available from any manufacturer.

There are benefits for you in this specialized experience and these specialized products. A Cyanamid Paper Chemicals representative can suggest how *specific* Cyanamid products can aid in your paper production, or improve your paper quality.

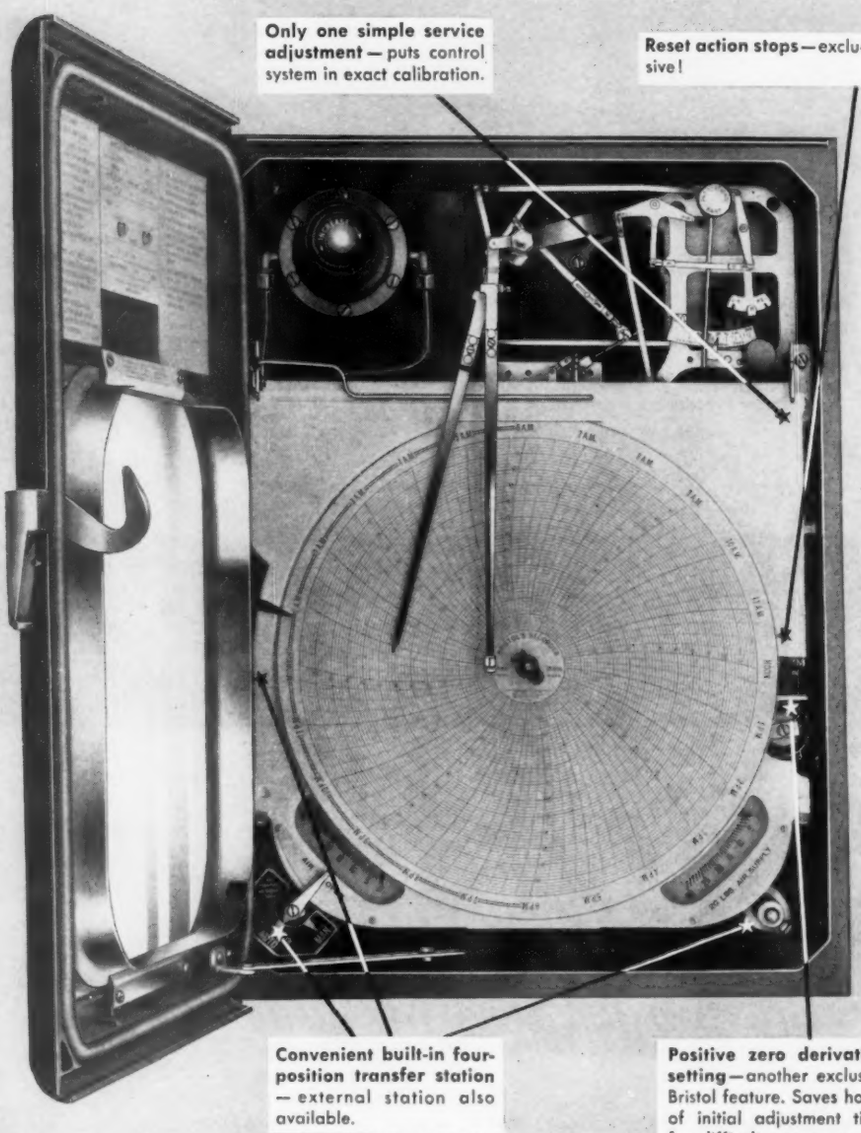
CYANAMID leads in Rosin Size

CYANAMID

AMERICAN CYANAMID COMPANY
PAPER CHEMICALS DEPARTMENT
30 Rockefeller Plaza, New York 20, N. Y.

In Canada: North American Cyanamid Limited, Toronto and Montreal

Are you sure you


Only one simple service adjustment — puts control system in exact calibration.
Reset action stops — exclusive!
Convenient built-in four-position transfer station — external station also available.
Positive zero derivative setting — another exclusive Bristol feature. Saves hours of initial adjustment time for difficult processes.

MADE IN MODELS FOR THESE CONTROL MODES:

1. **Fixed narrow band** (on-off).
2. **Proportional**—to 100% and to 30%.
3. **Reset with wide band**—rates 0.1 to 10 or 1 to 300 repeats per minute. Proportional band to 400%.
4. **Derivative** (rate)—Derivative time 0.2 to 20 min., plus zero derivative setting.
5. **Reset plus derivative**—proportional band, reset rate and derivative time as shown above.

WILL HANDLE THESE CONTROL PROBLEMS:

1. Cascaded control
2. Selective control
3. Ratio control
4. Time-program control
5. Pneumatic transmission.

are getting the best in pneumatic controllers?

Before you buy another controller check these advantages of the new Bristol Series 500 Free-Vane* Pneumatic Controller

FINEST MEASURING ELEMENTS

Bristol Series 500 Pneumatic Controllers are equipped with precision Bristol measuring elements—the widest selection of high-quality measuring elements available with any line of control instruments. You'll find models for control of: **temperature, pressure, vacuum, draft, absolute pressure, liquid level, flow, humidity, density, pH, and a large number of other variables measurable with electronic potentiometers and bridges.**

The sustained, predictable performance of Bristol measuring elements is one reason why you'll find more Bristol recording pressure gauges in use *than all other makes combined.* The new, completely linear Bristol Dual-Filled Vapor Pressure Measuring Element used in Series 500 Thermometer Controllers is the first really big advance in this field of measurement in 25 years. The Bristol Absolute Pressure Element, available in ranges as low as 0-6 mm of mercury absolute, also leads in its particular field. These are just a few of many examples of Bristol leadership in the development and improvement of measuring elements.

ADVANCED CONTROL SYSTEM FEATURES

Many features *found on no other pneumatic controller* assure better control with the Bristol Series 500: Reset action stops on reset models prevent loss of control due to prolonged deviation from set point; true zero derivative setting (on derivative models) can save hours of initial adjustment time; easy shift to wider proportional band (½ to 200% or 1 to 400% on wide band models) *without recalibration.*

BEST MAINTENANCE RECORD

One simple adjustment puts a Series 500 controller in exact calibration.

Basic simplicity, accurate design, closely held manufacturing tolerances make this single adjustment all that's necessary—even after complete disassembly and reassembly with replacement parts.

Bristol Series 500 Controllers on the job in new modern processing plant. Absolute pressure, steam flow, and liquid levels are variables controlled here.

This practically "built-in" calibration is typical of the foresight and engineering planning that make the Series 500 the easiest pneumatic control system on the market to service. Cut-and-try methods are eliminated. No special maintenance skills are required. All parts are completely interchangeable. The result: a truly superlative maintenance record in thousands of industrial plants.

NATION-WIDE SERVICE

Series 500 Controllers are backed up by the kind of service a quality product requires. The facilities of the main factory, four strategically-located branch factories, and factory-trained service engineers operating out of 44 principal cities across the United States and Canada are on call whenever and wherever needed to help you get the most out of your Bristol Pneumatic Controllers.

GET COMPLETE INFORMATION

. . . on the Bristol Series 500 Pneumatic Controller before you buy another instrument! Fully described in Bulletin A130. Write: The Bristol Company, 142 Bristol Road, Waterbury 20, Conn. 476

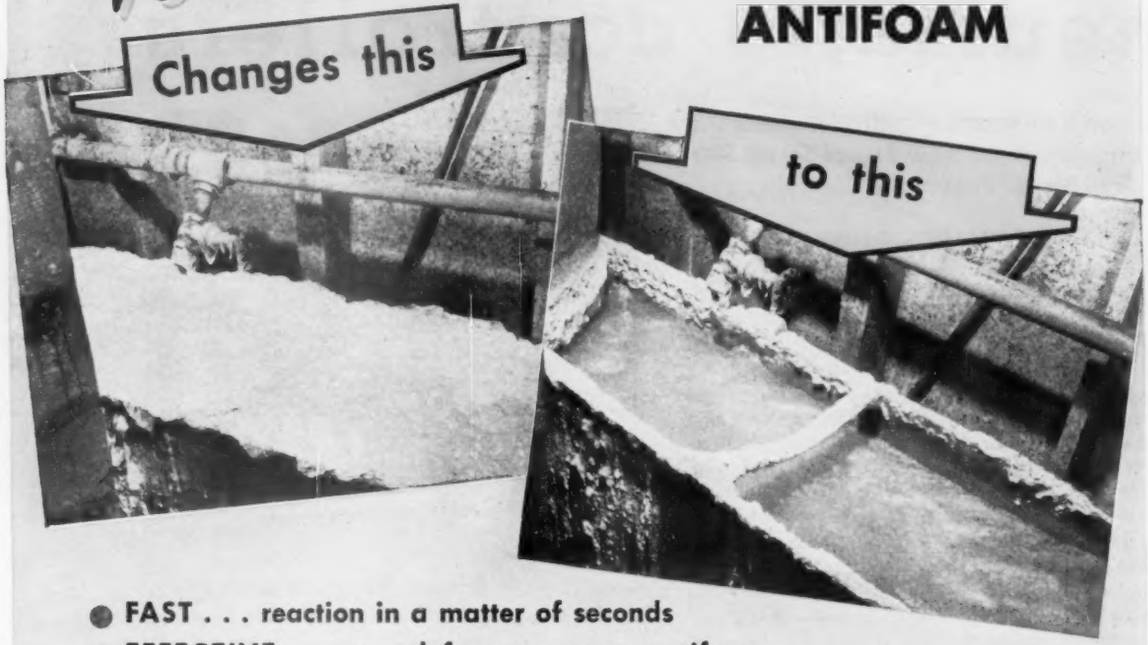
*T.M. Reg. U. S. Pat. Off.

BRISTOL *TRAIL-BLAZERS IN PROCESS AUTOMATION*

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

Nalco 71-B

LIQUID ANTIFOAM



- **FAST . . . reaction in a matter of seconds**
- **EFFECTIVE . . . as a defoamer—as an antifoam**
- **FAR MORE ECONOMICAL . . . than paste or briquette**

Here is what happened when *liquid* Nalco 71-B was tried in a well-known mill plagued with the foaming problem of high-resin pulp.

At a cost of only *one-sixth as much* as the previous antifoam, the mill reported Nalco 71-B *eliminates all foam in seconds!* Sheet quality remains high, and production stoppages and slow-downs due to foaming have been eliminated. Fibre loss to sewers is extremely low and cleaning of cell room and screens has been substantially reduced. Small wonder the mill continues to use Nalco *liquid* 71-B in both primary and secondary pulp screen processes.

There is a whole series of Nalco antifoams designed to get *results* like this in your mill. Ask your Nalco Representative about them, or write direct to Nalco.

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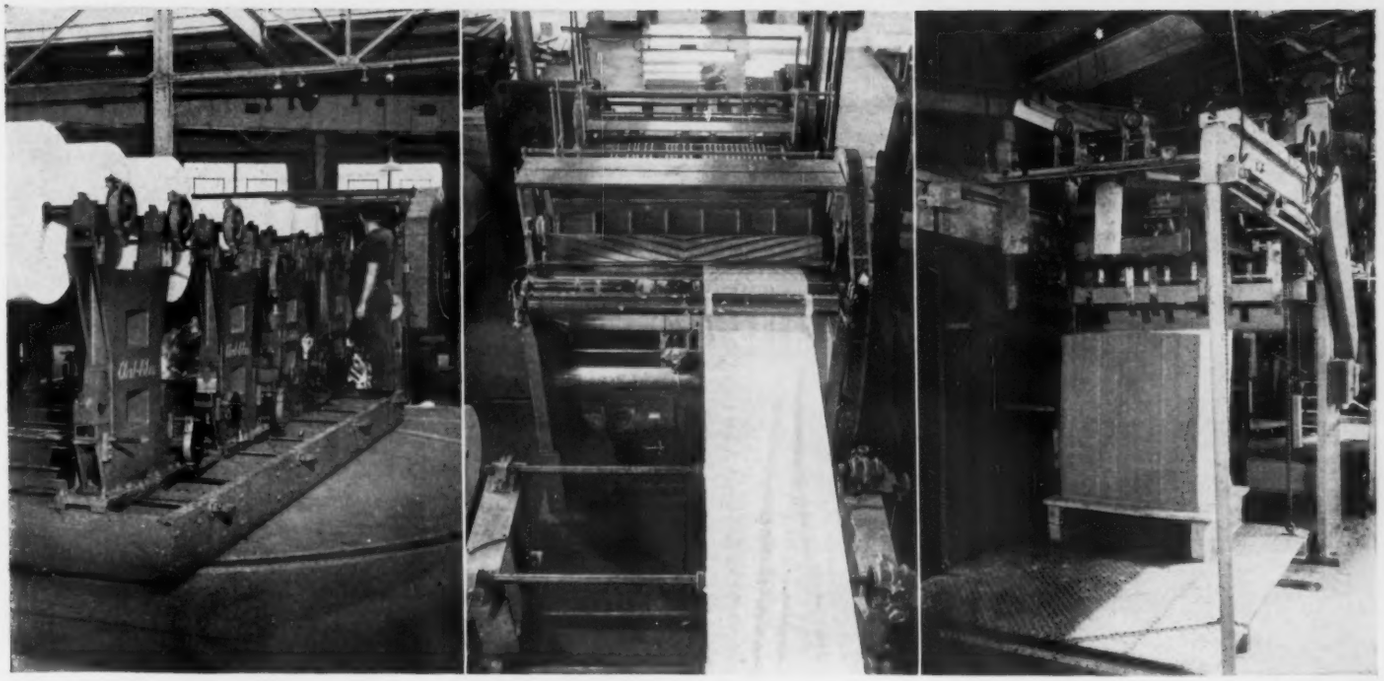
Telephone: POrtsmouth 7-7240
6213 West 66th Place • Chicago 38, Illinois
CANADA: Alchem Limited, Burlington, Ontario
NORTHWESTERN UNITED STATES, HAWAII and ALASKA
The Flox Company, Inc., Minneapolis 3, Minnesota
ITALY: Nalco Italiana, S.p.A. SPAIN: Nalco Espanola, S.A.
WEST GERMANY: Deutsche Nalco-Chemie GmbH

THE Nalco® SYSTEM...Serving the Paper Industry through Practical Applied Science



Clark-Aiken offers the Right Combination for Rock Bottom Sheeting Cost for You . . .

job planned roll stand installations to simplify loadings, slash downtime for roll changes

For more than sixty years, Clark-Aiken has been designing and building roll stand installations to keep pace with the ever-increasing speed of Clark-Aiken Cutters.

Drawing from this experience and using standard individual stands or single, two or three high multiple roll stands with turntable and transfer car arrangements where desirable, they design complete installations to meet specific requirements and operating conditions and enable the user to take fullest advantage of the high operating speeds of his sheeters.

three types of cutters, each designed for a specific type of service

Long experience with the sheeting problems of mills and convertors have convinced Clark-Aiken engineers that no single style of cutter will efficiently serve all users, sheeting all materials under all conditions. For this reason, Clark-Aiken offers a complete line of cutters, permitting selection of a machine exactly suited to the specific requirements and plant conditions.

All Clark-Aiken Cutters, however, incorporate such unique Clark-Aiken cost-cutting and quality-improving features as

- Adjustable Oversize Pinch Roll and Sand-Blasted Draw Roll for positive feed of any stock . . .
- The exclusive Clark-Aiken Self-Sharpening "Spiral Shear" Cylinder Knife for clean, sharp cuts on any type or weight of material.
- One-Piece Knife Assembly for easy, accurate squaring alignment.
- Scale-Setting of Both Slitters and Joggers to insure precision straight-line paper travel without use of tape.
- Lifetime Non-Stretch Tapes to cut down-time for tape adjustment and replacement.

a layboy exactly suited to your specific needs and plant conditions

To meet specific needs and plant conditions, Clark-Aiken makes three types of layboys.

The Clark-Aiken Conventional Type Layboy has long been recognized the most accurate and efficient of its type.

The versatile Overhanging Type, developed by Clark-Aiken to permit either end or side pile removal.

The Clark-Aiken Vickery Layboy in which the skid is stationary, while the delivery raises as pile height increases, permitting use of transfer cars for almost instantaneous pile removal and skid replacement.

All Clark-Aiken Layboys are ruggedly constructed with heavy cast frames and tied together with rolled steel shapes to provide rigidity equal to the demands of high speed operation and feature independent-motor-driven joggers.

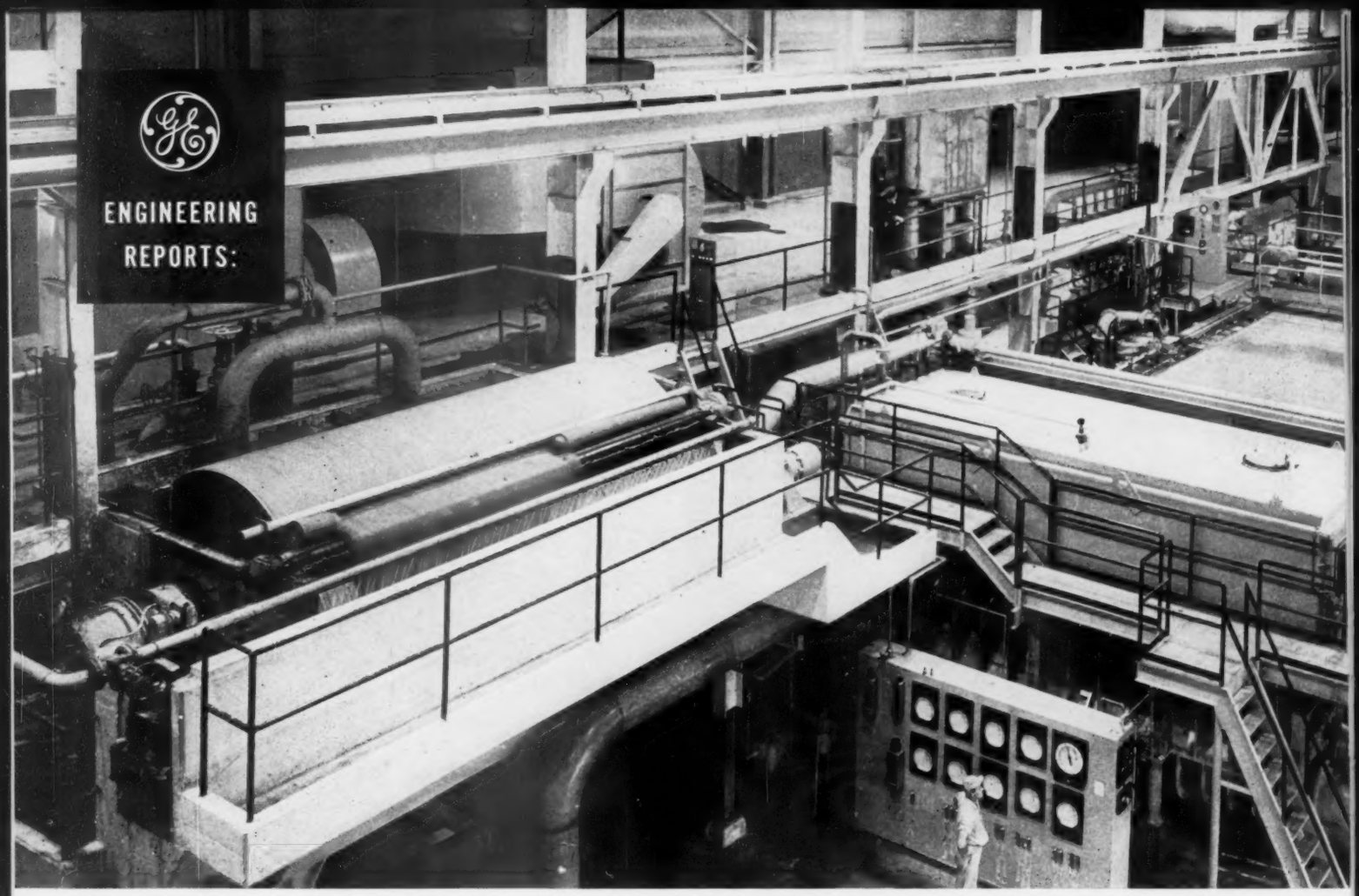
A Clark-Aiken engineer will be happy to call and explore with you the possibilities for important sheeting-cost savings with a designed-for-the-job Clark-Aiken sheeter installation.

West Coast Office: 114 East Union Street, Pasadena, Calif.

THE Clark-Aiken COMPANY

957 SPRINGFIELD ROAD

LEE, MASSACHUSETTS



LARGEST IN THE WEST, this 260-inch Fourdrinier in Crown-Zellerbach's new paper mill at Antioch, Calif. is 440 feet from head box to calender rolls. It is lineshaft-driven at a rated speed of 2500 fpm by a General Electric geared turbine, with G-E electric helper drives on the wet end and size press.

Providing 400 tons per day kraft and board capacity . . .

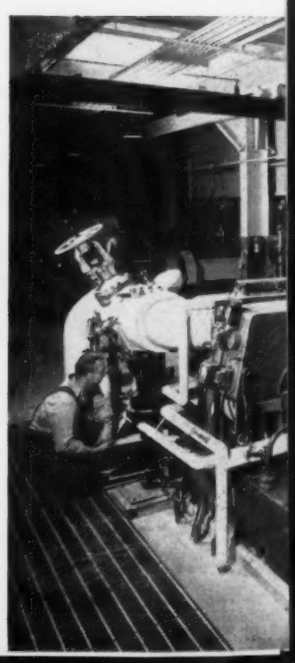
General Electric designed electrical system powers new Crown-Zellerbach Antioch mill

General Electric engineers co-ordinate mill's power and drive equipment, supervise installations, to meet needs of West's largest paper machine

Containing the largest paper machine in the West, Crown-Zellerbach's new $18½ million mill at Antioch, California—with a capacity of 400 tons per day of kraft and board—is part of an over-all expansion program of major proportions. The new mill will add 140,000 tons of paper annually to the company's capacity.

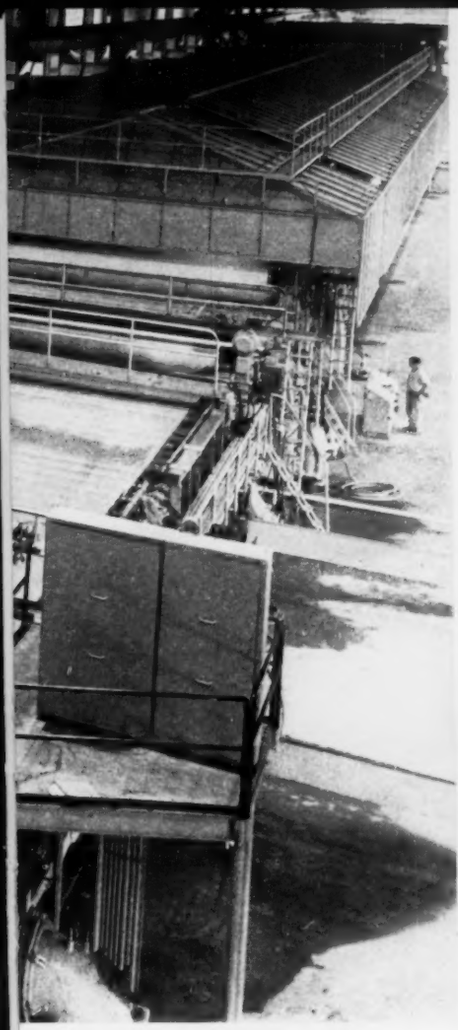
General Electric equipment and engineering services played a major part in achieving this addition. General Electric equipment was selected throughout to supply, distribute and control the power to keep production rolling. Co-ordination of the equipment into a flexible, easy-to-expand electrical system—designed to meet the mill's special needs—resulted from close co-operation between Crown-Zellerbach and General Electric application engineers. And careful supervision of the equipment's installation by General Electric field-service engineers helped meet mill construction schedules, expedited early start-up and profitable production. Only 4 months after completion, the mill is already producing near 100% of capacity.

To meet *your* specific production needs, too, General Electric engineering services can help design, equip and install a co-ordinated electrical system—from one-line diagram to on-time start-up. Early in your planning, call your nearest General Electric Apparatus Sales Office. Meanwhile, write for bulletins GEA-6508 on paper-mill drive systems and GEA-5521 on paper-mill power systems to General Electric Company, Section 655-18, Schenectady 5, New York.

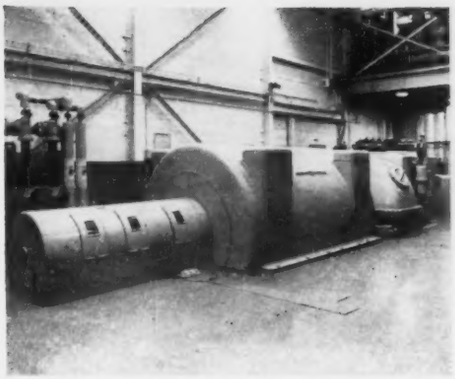


Engineered Electrical Systems for the Paper Industry

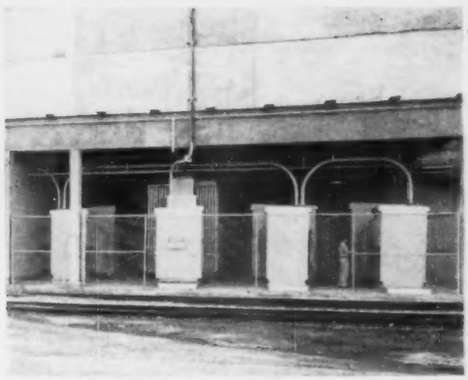
GENERAL ELECTRIC



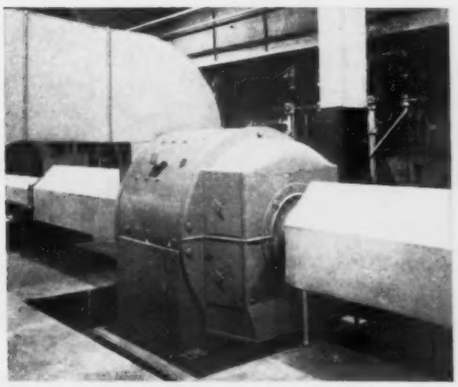
PRIME MOVER for the huge paper machine is this 2400-hp G-E geared turbine with a 6 to 1 speed range. New turbine governor holds speed constant to 1/10 of 1% of rated speed at all points over the speed range, to help provide higher quality production.



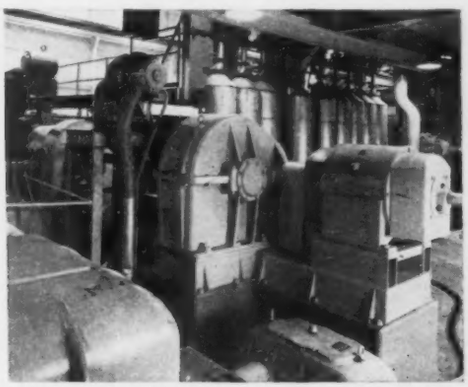
HIGH-EFFICIENCY G-E 12,500-kw turbine-generator produces mill's power, and extracts up to 200,000 pounds of steam per hour for process use.



SYSTEM FLEXIBILITY is provided by 15 G-E load-center unit substations, which can easily be supplemented to match the mill's load-change needs.

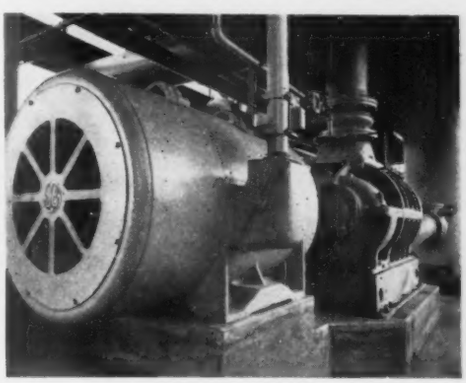


DC POWER SOURCE for helper drive is provided by enclosed, separately-ventilated, lineshaft-driven 400-kw generator.

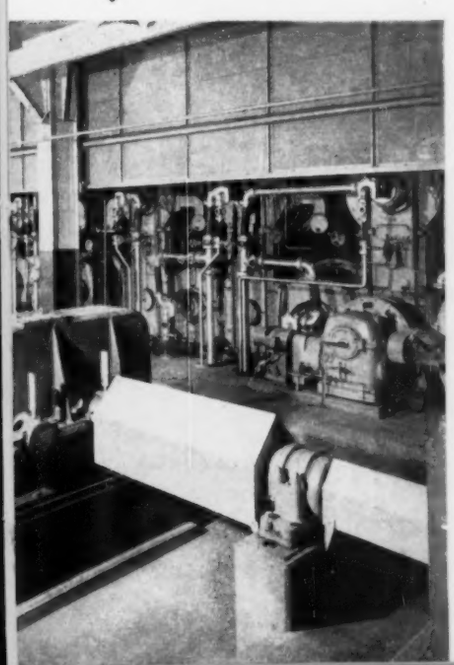


LONGER WIRE LIFE is obtained in mill by amplistat-regulated General Electric helper drives, with three 150-hp d-c Fourdrinier helper motors.

BETTER PROTECTION against physical damage is provided by the cast-iron frame construction of these three 200-hp Tri-Clad* '55' pump motors.



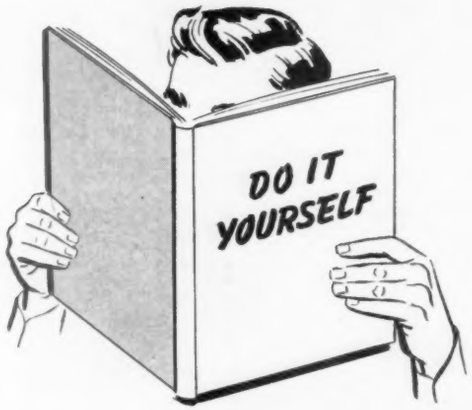
SAFEGUARDED against corrosion, water and fumes this 200-hp totally enclosed, fan-cooled General Electric motor (1 of 2) drives a vacuum pump.



EFFECTIVE CONTROL and short-circuit protection for mill's 2300-v G-E motors is supplied by new Limitamp* controllers that take only half the space of previous models.

*Reg. trade-mark of General Electric Co.

converting your own starch?



use *Clinton*® starches

You'll like the results when you use Clinton's 3011 and 3021 starches for enzyme conversion. They're always uniform . . . always the *same* high quality.

Use them for sizing . . . 3011 and 3021 convert uniformly to give you the desired penetration . . . increased strength . . . better printing surface. Since they convert well at high solids levels they give efficient coating . . . from application to drying. And, you can count on Clinton enzyme conversion starches for economy, too.

Count on Clinton's technicians, too, for help and advice with your paper making problems. They have the "know-how" of over 30 years experience . . . and it's all yours, just for the asking.

. . . ***and remember*** technical service in connection with your specific problems is available without obligation

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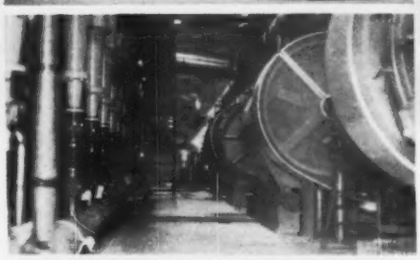
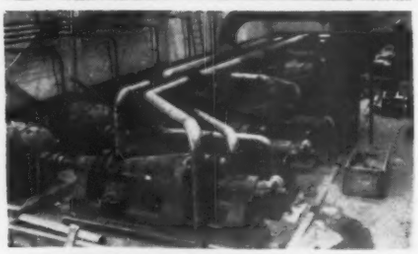
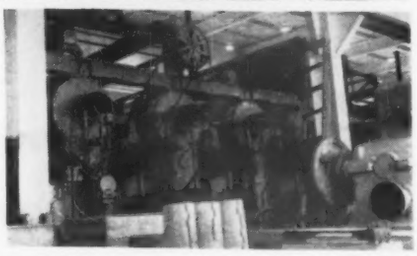
In New England—CARTER RICE STORRS & BEMENT

a New Pulp and Paper Mill

at Antioch, California for Crown-Zellerbach Corporation







Installed by *Eichleay*

Once again the opportunity to be of service to the pulp and paper industry was brought about at Antioch, California. Crown Zellerbach's new plant has recently been completed and the Eichleay Corporation performed all mechanical installation of the equipment. We were pleased to have been of service to Crown Zellerbach. Many of the great names in the paper industry are utilizing the Eichleay Corporation for mechanical installation work in order to obtain a trouble free and economic construction program.

EICHLEAY SERVICES

- Industrial Installations
- Construction of Heavy Foundations
- Building and Machinery Moving
- Shoring - Rigging

Eichleay
ESTABLISHED 1875

CORPORATION
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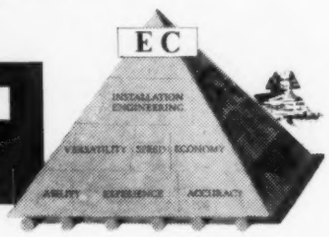
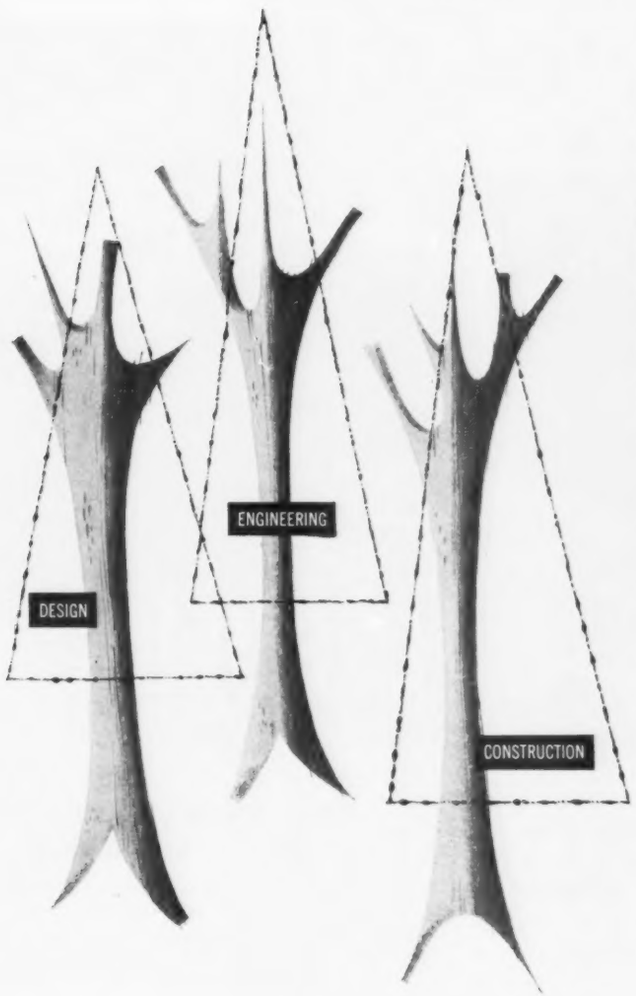
1180 Richard Ave., Santa Clara, Calif.



familiarity breeds success



Pritchard's familiarity with the problems of many and varied chemical processes...likewise, Pritchard's success in solving these problems... can be a big asset to you.

For years Pritchard has been tackling, and solving, problems very similar to those that may now be facing you. Problems in the design, engineering and construction of all phases of new plant construction, expansion or modernization of present facilities. This experience is available to you.

We invite you to sit down and discuss your problems with us; to tap our wealth of knowledge and experience.

your inquiry is invited

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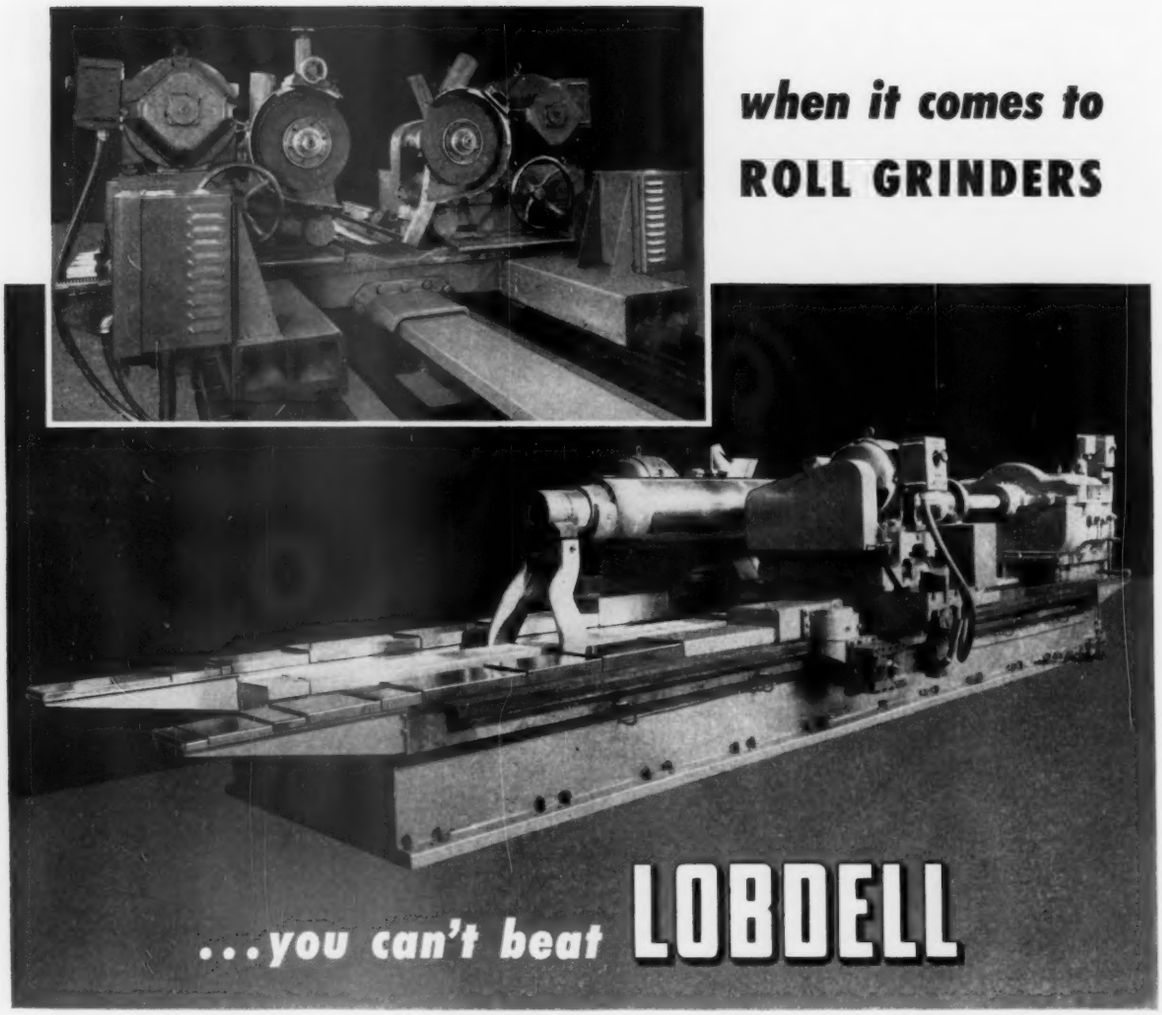

when it comes to ROLL GRINDERS

...you can't beat LOBDELL

Maximum simplicity of design for fool-proof and error-free operation so far as effective design can help . . . maximum accuracy of result on both iron and rubber covered rolls. Dust collection equipment available (not illustrated here). Grinder illustrated is capable of grinding rolls from 8″ to 44″ diameter and with face length of 234″ . . . Ask us for information concerning LOBDELL Grinders for *your particular requirements.*

- CHILLED IRON ROLLS
- MACHINE CALENDER STACKS
- ROLL GRINDING MACHINES
- ROLL CALIPERS
- KNIFE GRINDERS
- ABRASIVE CUT-OFF SAWS

Features OF THIS BIG, NEW LOBDELL ROLL GRINDER

- Wider and heavier bed and carriage construction.
- Inverted Vee-ways . . . stronger, better lubricated.
- Metallic telescoping way-covers give full protection.
- Crowning device . . . newly designed to give full range of desired crown curves.
- Choice of A.C. or D.C. electrical equipment to suit mill needs.
- Grinding wheel mounted on end of wheel spindle for quick wheel change.
- Handwheel control on side of wheel-head permits observation of work while feeding wheel.
- Coarse and fine feed of wheel at operator's choice.
- Automatic wheel infeed to compensate for wheel wear on chilled iron.
- Self-contained wheel spindle . . . forced feed lubrication with oil pressure control.

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UNITED ENGINEERING AND FOUNDRY COMPANY,
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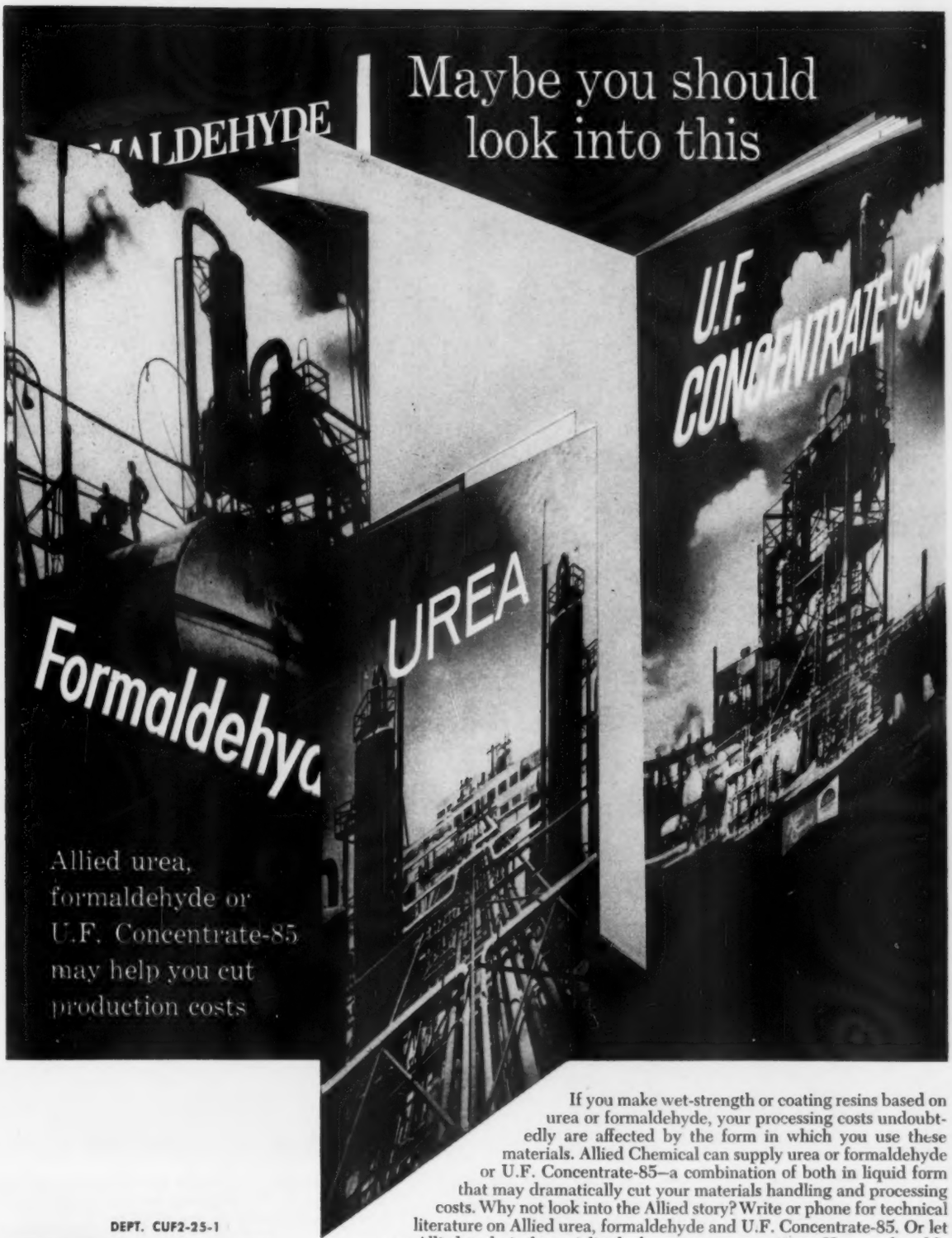

If you make wet-strength or coating resins based on urea or formaldehyde, your processing costs undoubtedly are affected by the form in which you use these materials. Allied Chemical can supply urea or formaldehyde or U.F. Concentrate-85—a combination of both in liquid form that may dramatically cut your materials handling and processing costs. Why not look into the Allied story? Write or phone for technical literature on Allied urea, formaldehyde and U.F. Concentrate-85. Or let an Allied technical specialist look over your operations. He may be able to suggest simple modifications that will reduce your resin-making costs.

DEPT. CUF2-25-1

Allied Chemical — Nitrogen Division

40 Rector Street, New York 6, N. Y.

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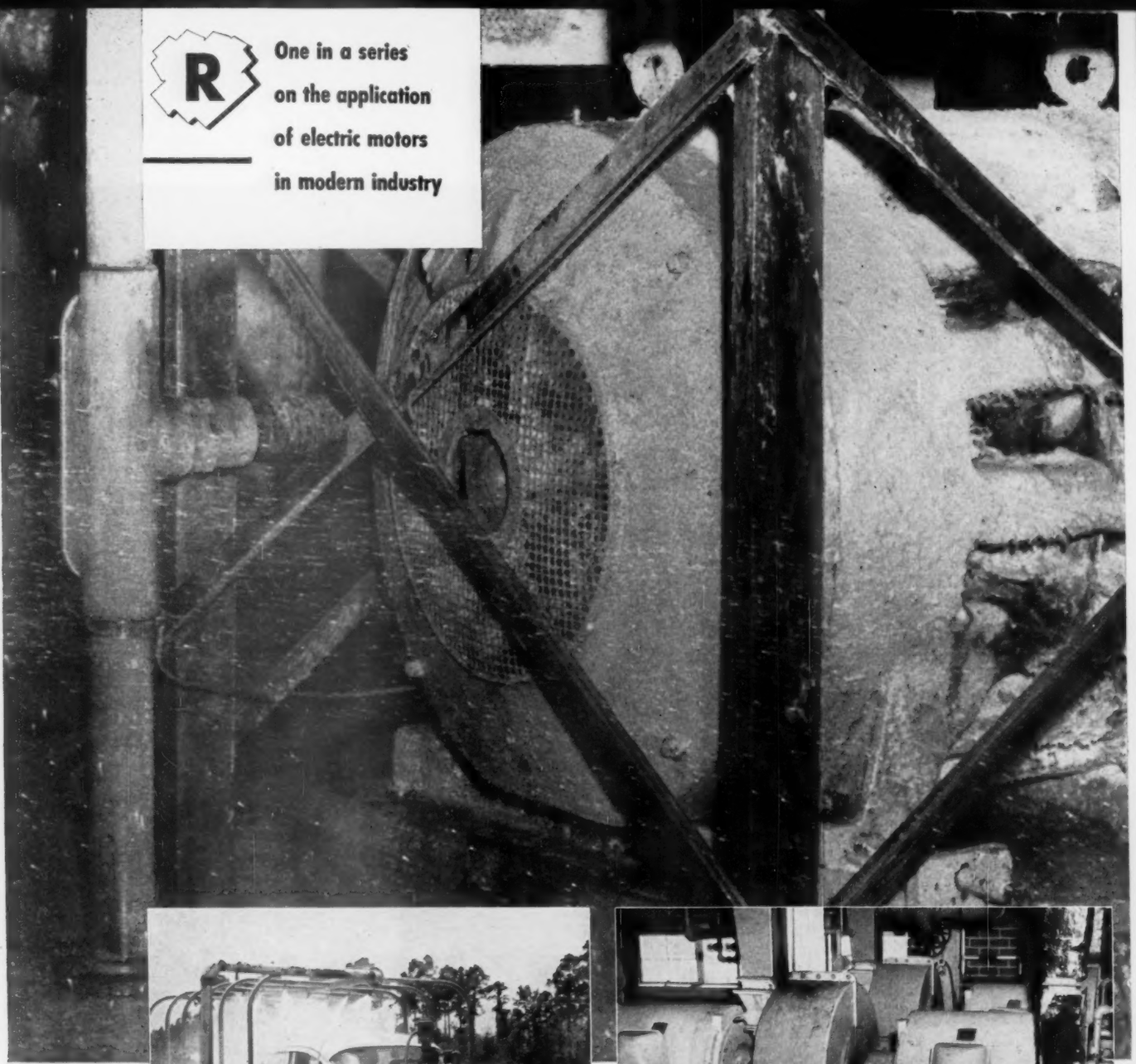
One in a series
on the application
of electric motors
in modern industry



This washer removes fly ash from cars left in the parking lot. The 25 hp. Reliance A-c. Motor automatically starts and stops 200 to 400 times a day in all kinds of weather.

These two Bauer Refiners are driven by Reliance 400 hp. A-c. Motors. The grinding action of the machines sets up heavy load factors on the motors.

RELIANCE motor design proved in new paper mill

Here is a 100 hp. Reliance Totally-Protected A-c. Motor doing a job under very adverse conditions. The water and pulp being sprayed on it is coming from a paper board machine, part of an installation that Crossett Paper Company recently built to produce bleached kraft board from hardwood and pine pulp.

But there is more to a Reliance Motor than just a good enclosure. Extra copper and iron, the best bearing lubrication system, tough, resistant insulation . . . these and many more features add up to designed durability, the one big feature that makes users, like Crossett, steady Reliance customers.

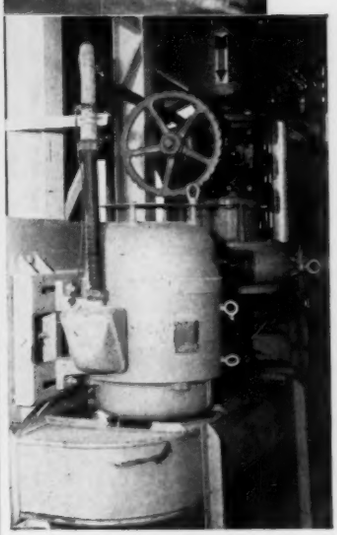
Call your Reliance representative and ask him to show you the Reliance extras. Fifteen minutes of your time now can save hours of machine down-time later.

For further details on this installation, write for bulletin B-2504. B-1595

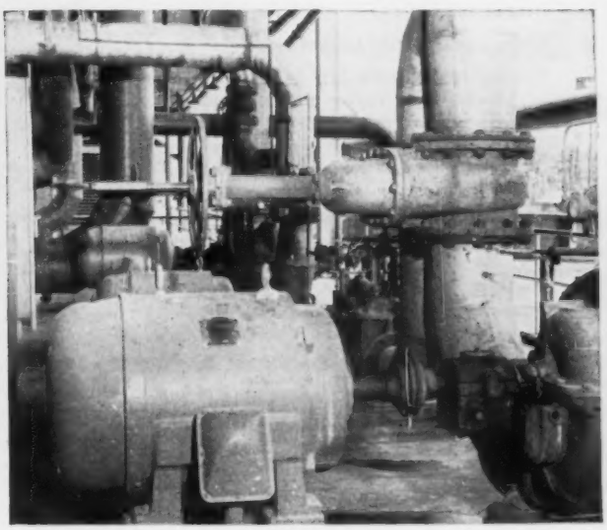
RELIANCE ELECTRIC AND ENGINEERING CO.

Dept. 185A, CLEVELAND 10, OHIO • CANADIAN DIVISION: WELLAND, ONTARIO
Sales Offices and Distributors in Principal Cities

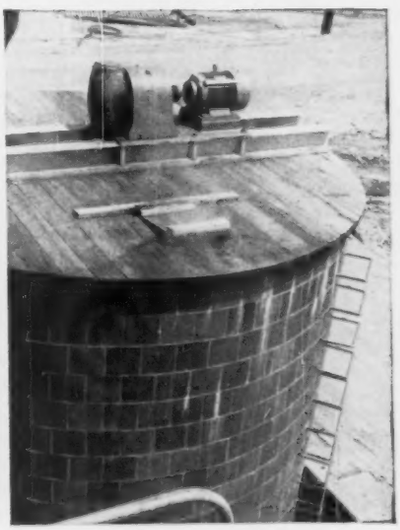
◀ Located under the head end of the board machine, this 100 hp. Reliance A-c. Motor operates a fan pump while periodically being drenched with water and pulp.



Reliance has frame designs for every application. Here is a 25 hp. foot mounted vertical motor driving a refined-stock pump. Other vertical designs include C-Face, D-Flange, and P-Base mountings.



This 60 hp., 1800 rpm and two 40 hp. 900 rpm Reliance A-c. Motors run white water pumps. Though reasonably sheltered from the elements, the motors are subjected to wide temperature changes.



In hard to reach spots like this two story high refined stock chest, Metermatic Bearing lubrication is very important. This new line 20 hp. Reliance A-c. Motor will operate the agitator for months without greasing.

BRIEFS for buyers of

Caustic Soda
Sodium Chlorate

Some tips on supply logistics

Like all Hooker plants, this one in Montague, Michigan, is near deep water for a purpose—a purpose you might consider when choosing a supplier.

The water gives our customers the option of barge as well as rail delivery.

For many, the barge service means cheaper delivery. For others, it offers an alternative means of shipment in case of interruption in rail service.

Here are three other "pluses" to consider when you select a chlorine-caustic supplier. (As a Hooker customer, you enjoy all of them):

1. Competent engineering help. An experienced supplier can give you assistance in designing or revamping your chlorine or caustic soda handling system.

2. Operating assistance. Your supplier's technical servicemen can often spot—and help you correct—operating troubles before they become serious. Do you get the advantage of periodic technical service visits?

3. Safety programs. Your supplier should be able to give you up-to-date advice on safe equipment and handling methods.

We'll be glad to enlarge on these points, with your requirements in mind. Simply phone or write the nearest Hooker sales office.

Chlorine dioxide bleaching

Are you taking advantage of the high brightness—high paper strength you get with chlorine dioxide?

If so, you'll be interested in what we are doing to insure good supply of *sodium chlorate*—the chemical "raw material" you need for this fast-growing new bleaching method.

Thanks to our Oldbury Products plants at Niagara Falls, N. Y., and Columbus, Miss., we're currently the nation's largest producer of sodium chlorate. But even that isn't good enough to meet *tomorrow's* needs.

The Columbus plant has been in production since 1954. Last summer we upped its capacity by 5,000 tons/yr. Now we're building again. By early 1958, another 5,000 tons/yr. will be on tap.

All this is by way of backdrop to four points you'll do well to consider when deciding where *you'll* go for sodium chlorate. Your purchase of Oldbury® sodium chlorate gives you:

1. Fastest service you can get in East and South, from our two plants.
2. Skilled technical help when you need it, *regardless of the process you use.*
3. Sodium chlorate that's of 99% minimum purity.
4. Over 50 years' experience in serving —and growing with—the pulp and paper industry.

May we spell out for you how this kind of service helps insure successful chlorine dioxide bleaching? For details, just write *Hooker Electrochemical Company, Oldbury Products, 19 Rector Street, New York 6, N. Y.*

New booklet, pocket size, offers useful facts on buying caustic soda.

Besides information on forms, grades, and shipping containers, contents include a factual discussion on 50% *vs.* 73% liquid caustic, and a handy nomograph to help you figure which strength is your better buy.

There's also a nomograph to help you estimate your requirements for various process solutions.

Check the coupon for a copy.

Check items you'd like to receive:

- ☐ *Caustic Soda Buyer's Guide* booklet
- ☐ Technical data on caustic soda
- ☐ Technical data on sodium chlorate

For information on these other Hooker chemicals used in the pulp and paper industry, check below:

- ☐ Muriatic Acid
- ☐ Sodium Sulfide
- ☐ Sodium Sulfhydrate

Clip and mail to us with your name, title, company address.

HOOKER CHEMICALS PLASTICS

HOOKER ELECTROCHEMICAL COMPANY

1905 Forty-seventh Street, Niagara Falls, N. Y.

Niagara Falls · Tacoma · Montague, Mich. · New York · Chicago · Los Angeles

MODERN EQUIPMENT and closest attention to every casting detail enable new Aloyco foundry to turn out the finest corrosion-resistant valve castings made.

Aloyco casts longer life into stainless steel valves for paper mills!

With more and more stainless steel valves being used by the paper industry, this Aloyco foundry becomes increasingly important to you. It is the most modern foundry devoted exclusively to the manufacture of corrosion resistant valves.

You can count on the uniformly high valve quality that only long experience and the latest foundry practices shown here can assure. And when you consider the extra years of service and the reduced maintenance of Aloyco corrosion resistant valves, it is easy to see why paper men turn to Aloyco.

Made by the world's largest specialist in high alloy valves, Aloyco valves have been helping the paper industries solve corrosion problems for nearly 30 years. Competent Alloy Steel Products Company representatives are always available to discuss your valve requirements. Call or write our nearest sales office listed at right. Alloy Steel Products Co., Inc., 1301 West Elizabeth Ave., Linden, New Jersey. 7.7

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Longer Lasting
ALOYCO
VALVES
1ST IN CORROSIVE SERVICE

Subsidiary of Walworth Company

SHELL MOLDING. Up-to-date shell molding facilities assure users of the greatest contour accuracy in castings for small and medium-sized Aloyco valves.

INSPECTION AND HEAT STAMPING. Castings are carefully inspected, their "pedigrees" stamped in. Any not 100% perfect are remelted, never welded or patched.

HEAT TREATING. After cleaning, all Aloyco austenitic type castings are heat treated and water quenched to insure maximum corrosion resistance.

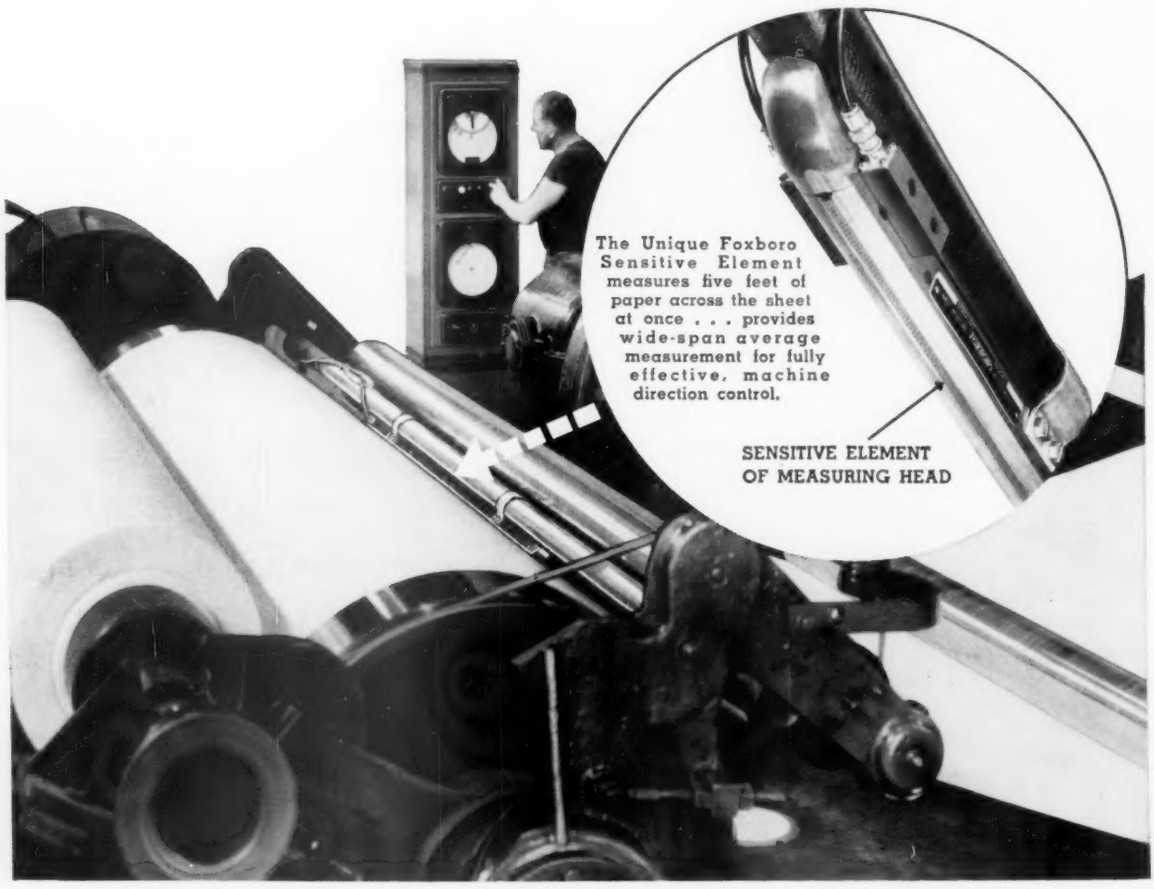
56 Leading Mills

set new records in sheet moisture uniformity . . . with FOXBORO control

Fifty-six leading mills, ranging from Bangor to Los Angeles, are now using Foxboro Sheet Moisture Control to maintain the closest sheet moisture uniformity they've ever had! With Foxboro Control they're now automatically getting: 1. *Direct* measurement of sheet moisture at the reel . . . fast, precise control of steam to the dryers. 2. *True* average reading across as much of the sheet as desired. 3. Consistent high accuracy independent of sheet temperature or speed. 4. Complete protection against dryer overheating during sheet breaks. 5. Ability to control moisture of *any* weight stock: tissue, pulp, kraft, newsprint, board, or specialties. It's the *complete* control system that's helping them to make better paper at lower cost.

Foxboro Sheet Moisture Control can improve *your* paper quality . . . eliminate costly rejects . . . help you to ship paper at precisely the specified moisture content. Get full details. Write for illustrated Bulletin 10-4. **The Foxboro Company, 995 Neponset Ave., Foxboro, Massachusetts, U. S. A.**

FACTORIES IN THE UNITED STATES, CANADA, AND ENGLAND


The Unique Foxboro Sensitive Element measures five feet of paper across the sheet at once . . . provides wide-span average measurement for fully effective, machine direction control.
SENSITIVE ELEMENT OF MEASURING HEAD

FOXBORO *Reg. U.S. Pat. Off.*

AUTOMATIC SHEET MOISTURE CONTROL

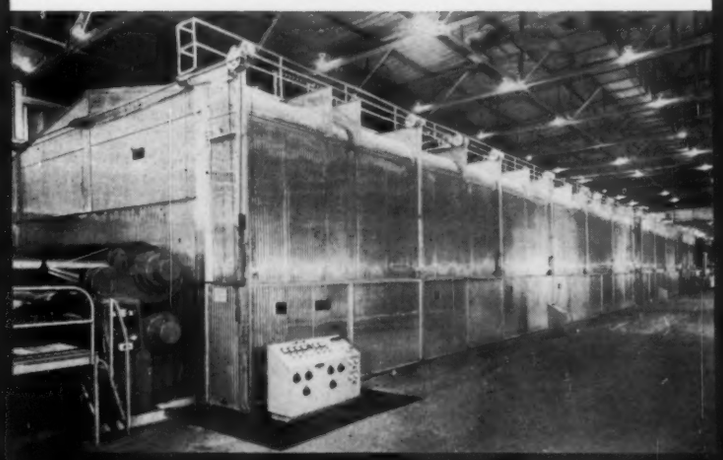
ROSS
Air Systems

Serving the Paper Industry Since 1921

ENGINEERING CONSTRUCTION

...consistently sound

...consistently durable



ROSS-HOOPER totally enclosed hood showing end and side panels. Side panels rise automatically in case of break.

In a very real and practical sense the words AIR and ROSS are synonymous. To these could well be added the phrase SKILLED ENGINEERING.

Since the early twenties Ross Engineers have been serving your industry in connection with the ever increasing use of air. They were among the first to demonstrate the importance of skilled engineering in the application of air to the production of pulp, paper and board. Four basic values have always been their targets: better end product, lower production costs, lower maintenance, and last but by no means least, better working conditions.

This calls for an understanding of the several important related variables and how to weld them into an efficient AIR SYSTEM. It calls for an understanding of temperatures, humidities, dew points, pressures, circulation, contact areas, heat removal and how to coordinate all these controlling factors.

Perhaps it is an appreciation of these skills and of the single overall responsibility of engineering, construction and installation that has led to the great preponderance of ROSS Air Systems throughout the industry. Perhaps it is an appreciation, too, that it is risky business not to see to it that the best talent available takes charge of these problems.

Exhaust units on roof. Penthouses have separate compartments for fan and for drive and motor. Still giving good service after 25 years.

During the past five years Ross Engineering Corporation and its Canadian Affiliate, Ross Engineering of Canada, Ltd., have designed, constructed and installed AIR SYSTEMS in many mills. The large recent installations include projects for:

International Paper Co.
Bowaters Southern Paper Corp.
St. Regis Paper Co.
Powell River Co. Ltd.

ROSS SYSTEMS

J. O. ROSS ENGINEERING CORP.
444 MADISON AVENUE • NEW YORK 22, N. Y.
ATLANTA • BOSTON • CHICAGO • DETROIT • LOS ANGELES • SEATTLE

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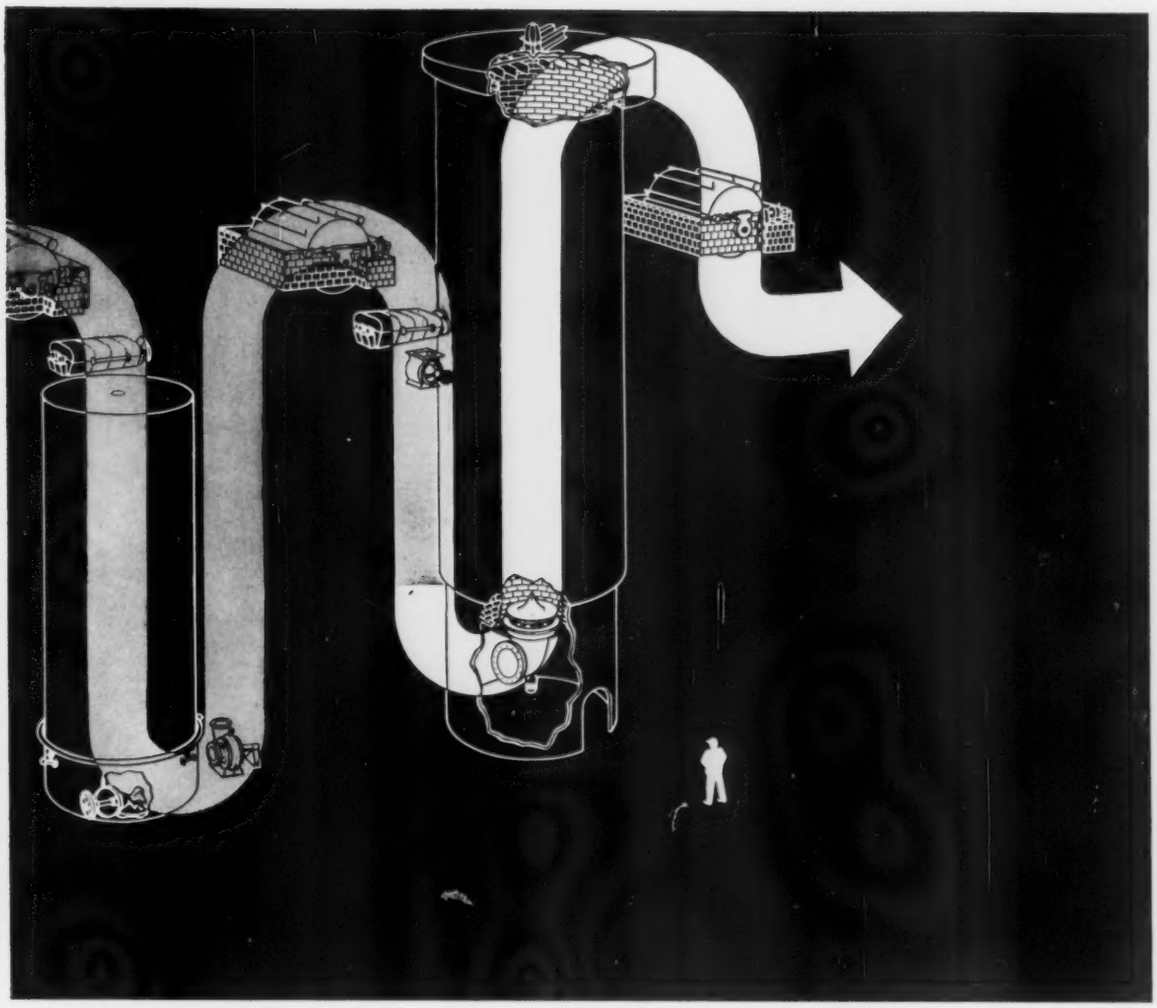
ANDREWS & GOODRICH DIV.
Boston, Mass.

The continuous bleaching system that convinced

Only the KAMYR System gives you this combination of features

- Kamyr's Upflow High Density Tower design eliminated the flashing off of CLO_2 gases.
- Kamyr Radial Flow Mixers produce thorough mixing of stock and chemicals even at high consistencies.
- Kamyr solved the corrosion problem due to the use of chlorine dioxide by employing high grade alloys.
- Kamyr's pre-impregnation of high density pulp is recognized as ideal for high grade dissolving pulp.
- Kamyr's Upflow chlorination tower was the pioneer in its field, is production-proven.
- Kamyr dilution nozzles are automatic.
- Kamyr Vacuum Washers feature automatically loaded vacuum breaker, perforated plate deck and sloped central tubes for pick-up of the pulp sheet at low stock level.
- Kamyr achieved the intense mixing required for chlorine gas in the tower bottom.
- Kamyr's circulation pumps, stainless steel and rubber lined, withstand the corrosive attacks of chlorine.



178 pulp mills!

Proven capacity to produce superior quality, bright and strong pulp has led to installation of the KAMYR Bleaching System in more mills throughout the world than any other type. This preference reflects the leadership of KAMYR in important inventions and engineering achievements which have become the standards of modern bleaching methods.

The patented KAMYR System is controlled and produced exclusively for U. S. mills by the Sandy Hill Iron & Brass Works.

Far ahead of the field in operational advantages, KAMYR can make a worthy contribution to your pulping facilities. WRITE TODAY FOR THE SANDY HILL — KAMYR BLEACHING BULLETIN #204.

THE
SANDY HILL
IRON AND BRASS WORKS
HUDSON FALLS, N. Y.

Time to Plan Your Advertising for the 1957 "World Review Number"*

Everyone of influence in the pulp and paper industry reads and uses the World Review Number and everyone knows it. That's why so many advertisers, year after year, schedule prominent space in this exclusive, year-around reference work that combines top coverage, prestige and economy with rewarding results.

Your consistent advertising in PULP & PAPER'S monthly issues, augmented by prominent space in the World Review Number, is a productive program for building the name and sale of your products in the pulp and paper industry. Following are a few important reasons why World Review Number advertising pays off so well (and reasons, too, incidentally, why the World Review Number pays off so well for its readers).

1. COMPLETE WORLD PULP STORY—including World Pulp Map, showing flow of market pulp during 1955; World Pulp Review, showing trends and predicting what's ahead; the story of Non-Paper Pulps, covering textile and plastic uses; and the exclusive World Market Woodpulp Directory.
2. DOMESTIC SUMMARY—review of the year in the United States and including complete statistical tables covering the paper industry, woodpulp and pulpwood.
3. CANADIAN SECTION—a review of the activities of our northern neighbors' most important commodity of manufacture—pulp.
4. FOREIGN SUMMARIES—the story of pulp and paper production and consumption in each of the important producing and consuming countries of the world.
5. STATISTICAL REVIEW—statistical tables covering every item of activity in pulp and paper production.

PLEASE MAKE A NOTE: *May 20* is the advertising closing date for advertisers of pulp, importers and exporters of pulp, and pulp agents whose advertising will appear in the directory section. For manufacturers of equipment, supplies and services, advertising closing date is *June 1*. Regular rates apply.

* **The World Review Number (30th annual number coming up) is the regular 13th issue of PULP & PAPER and is published in July in addition to the regular July issue. The July issue is also known as the "Pulpwood Annual Issue." If you need further details concerning either, please get in touch with us.**

mf **A MILLER FREEMAN PUBLICATION**

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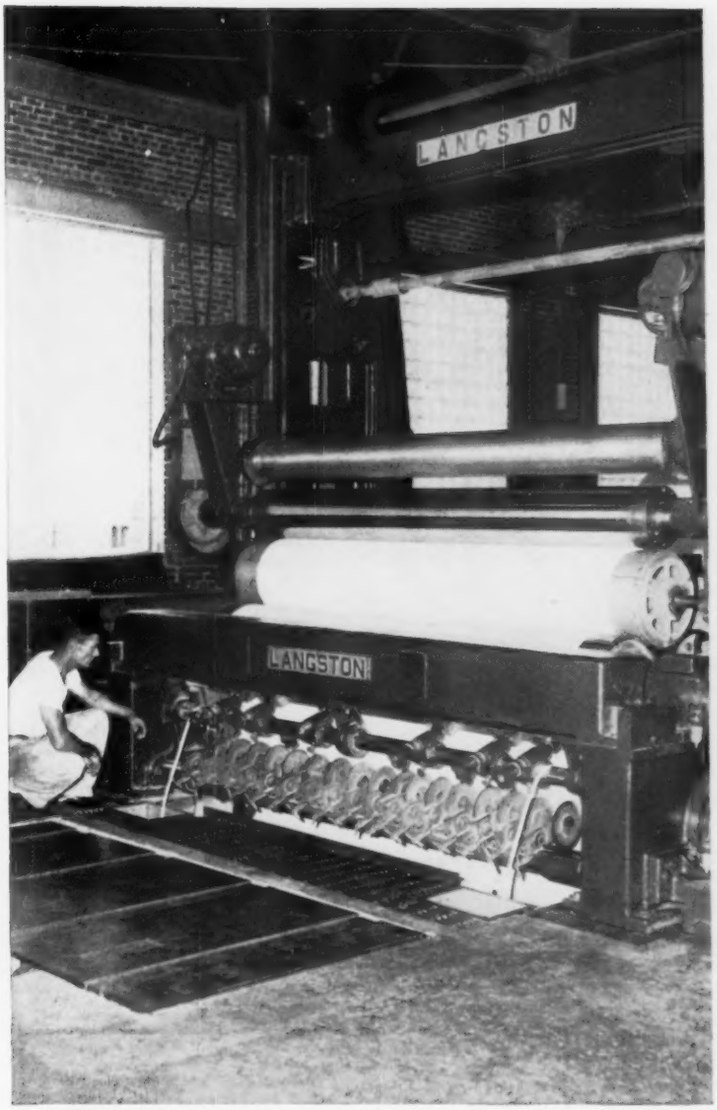
PULP & PAPER



STARTING A ROLL. St. Regis operates this new machine at about 1000 feet per minute. During its first year's operation, the machine will slit and wind roughly *15,000 miles of board.*

Langston Slitter & Winder makes 26 perfect cuts per roll

LANGSTON SHEAR-CUT SLITTERS keep dust to a minimum. This means cleaner rolls; a cleaner plant; more accurate slitting; and square edges.

Performance report on new machine at St. Regis

"This new Langston winder makes money for us through better rolls and less waste." This remark was recently made by A. F. Downey, plant superintendent at the Pensacola, Fla., paper mill of St. Regis Paper Co. He was referring to the new Langston Slitter & Winder.

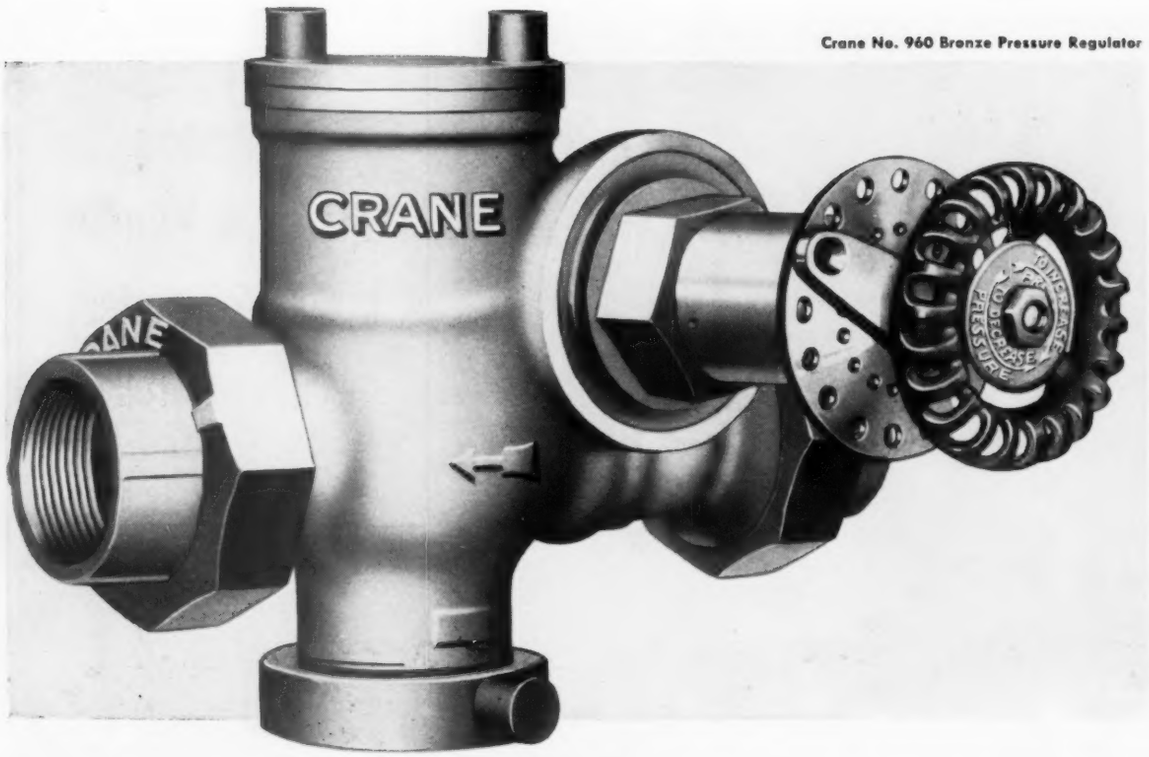
The machine's task is to slit heavy board used in the manufacture of milk cartons, butter cartons, paper cups, etc. Before installation of the machine, St. Regis had a major problem with checking and wrinkling—both of which created waste. Today they turn out as many as 26 cuts per roll—all perfect. "I think we could make 30 just as easily," said Mr. Downey.

The new Langston machine is a Model DH with 18-in.-dia. drums and idler rolls and other features specially built in to aid handling of the heavy board. Rolls slit and wound are 92 in. wide and of up to 72-in. dia. Operators praise the machine because it is so easy to operate.

Langston Slitters & Winders are available in several standard types, each adaptable to special applications. Sizes range from 40 to 200 in. and in speeds to meet your specifications. Write for complete details. SAMUEL M. LANGSTON CO., Camden 4, N.J.

LANGSTON *Leadership...by design*

Crane No. 960 Bronze Pressure Regulator



for dependable, *precision* control of steam and air pressure

CRANE PRESSURE REGULATORS

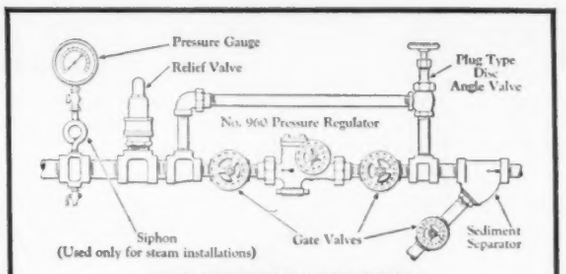
For accurate regulation of steam and air pressure, you're safe and sure when you specify Crane No. 960 Bronze Pressure Regulators.

Because they are Crane-designed and Crane-built for long, trouble-free operating life, these rugged, precision type regulators meet the most exacting requirements of modern heating systems, air blasts, cookers, driers, vulcanizers and other process equipment.

With Crane Bronze Pressure Regulators, outlet pressure cannot build up to inlet pressure when there is no steam or air demand on the outlet side. Equally important, ordinary fluctuations of inlet pressure do not affect the outlet pressure.

NEW LITERATURE ON REQUEST

Available in sizes ½ to 2 inches; maximum inlet pressures 250 pounds air or 250 pounds steam up to 450° F.



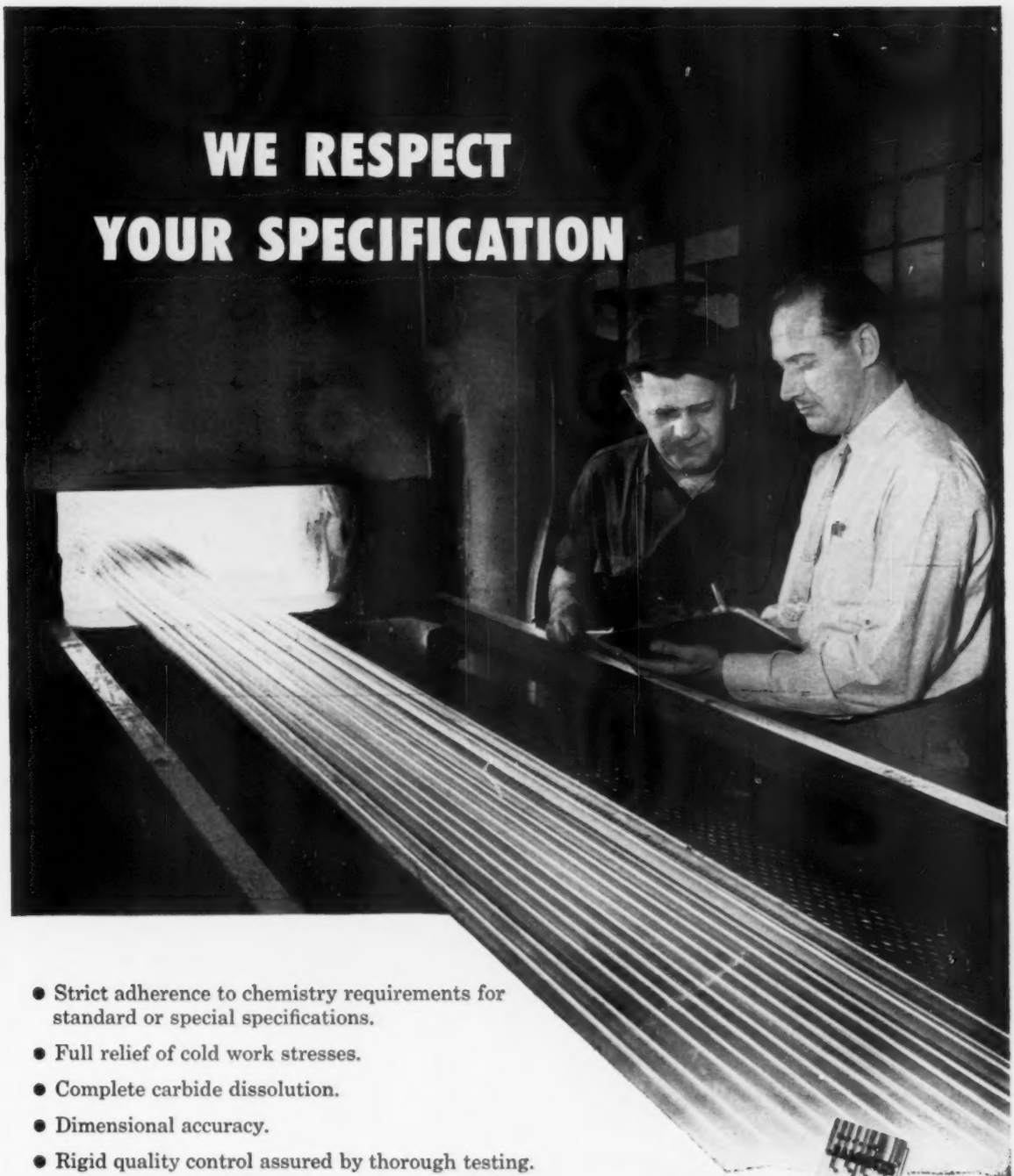
HOW TO HOOK UP YOUR CRANE PRESSURE REGULATORS

New circular helps you select proper regulator for your needs. Ask your Crane Representative for a copy, or write to address below.

CRANE VALVES & FITTINGS

PIPE • PLUMBING • KITCHENS • HEATING • AIR CONDITIONING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas



- Strict adherence to chemistry requirements for standard or special specifications.
- Full relief of cold work stresses.
- Complete carbide dissolution.
- Dimensional accuracy.
- Rigid quality control assured by thorough testing.

For stainless steel tubing or pipe, guaranteed to meet your exact specifications—remember Damascus.

Write for free booklet today

DAMASCUS TUBE COMPANY

STAINLESS STEEL TUBING AND PIPE

GREENVILLE, PENNSYLVANIA

Two Disc American® Saveall

Unusual Size Unit Handles 650 GPM with Excellent Clarity Results...

Probably the most unusual Saveall in the paper industry today is the 7′ dia. by 2 disc American Saveall at Hudson Pulp & Paper Company's Augusta, Maine mill. Unusual because it is the first known Saveall of this unique size; and because it was a unit designed for the mill's requirements — not vice versa.

This 2 disc Saveall is currently closing a machine which makes colored tissue from straight unrefined sulphate. Designed to handle 500 gpm and produce a clarity of 0.18 lbs./1000 gal., this small unit has handled up to 900 gpm with excellent clarity results.

American (Disc-Type) Savealls are available in two diameters — 7 and 9 feet. From 2 to 8 discs are available in the 7′ dia. units and from 4 to 12 discs in the 9′ dia. units.

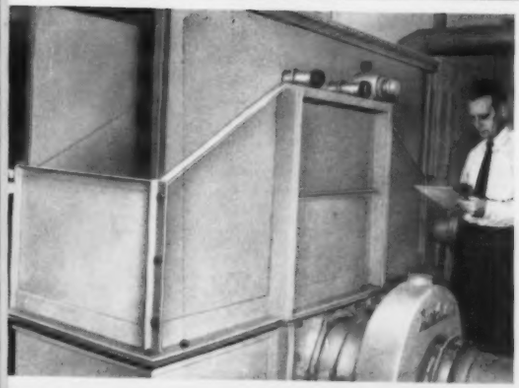
One of the outstanding advantages found in American Savealls is the large filtering area and high capacity with floor space saving. The 7′ dia. by 8 disc Saveall has 560 sq. ft. of filtering area and occupies only 8½′ by 15½′ of floor space. The 9′ dia. by 12 disc unit with a filtering area of 1,350 sq. ft. requires an area of only 23′ x 12′.

For more information on the American Disc-Type Saveall write for Bulletin No. 701-R, Dorr-Oliver Incorporated, Stamford, Connecticut.

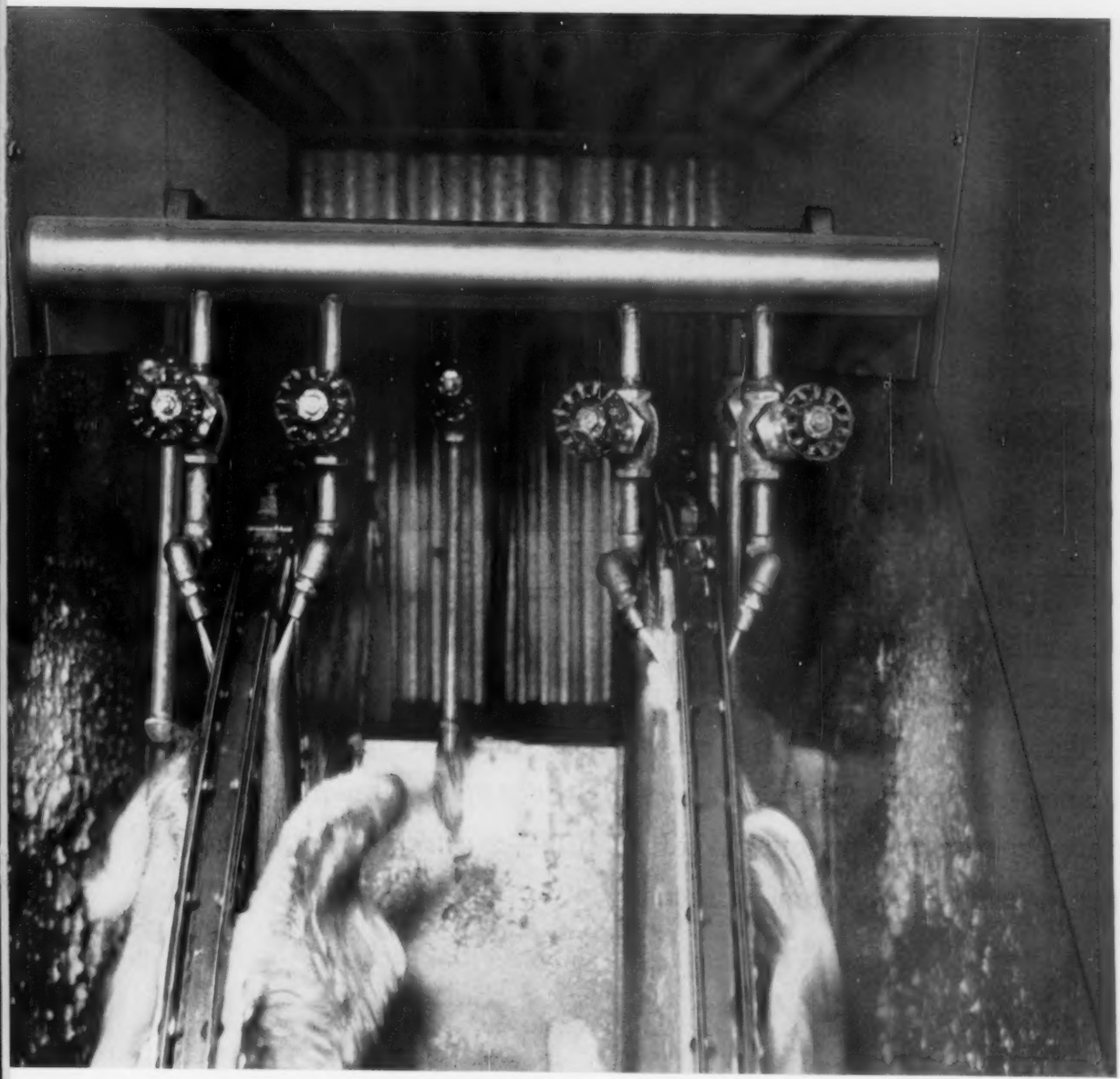
American Trademark Reg. U. S. Pat. Off.

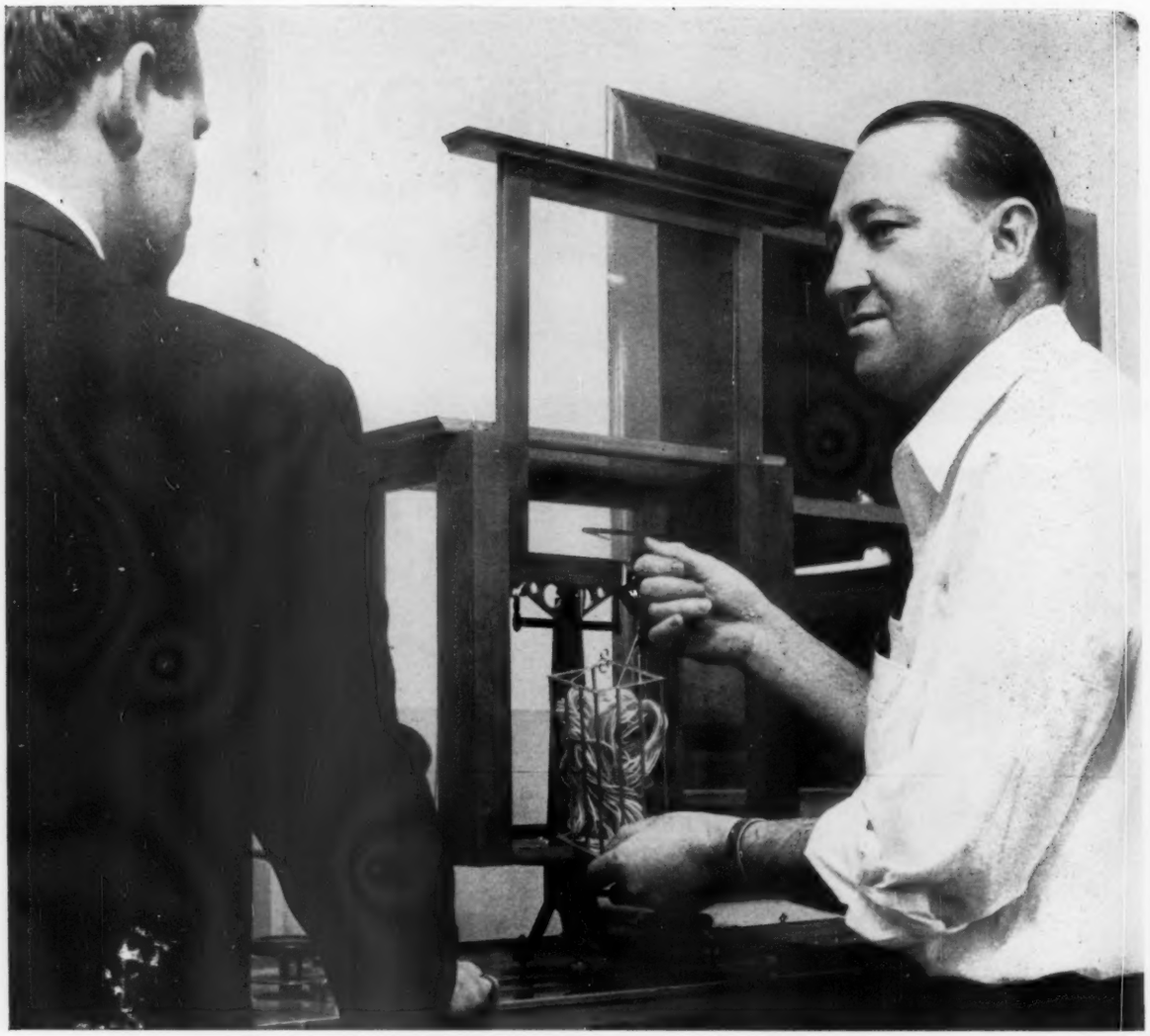
DORR-OLIVER
INCORPORATED
WORLD-WIDE RESEARCH • ENGINEERING • EQUIPMENT
STAMFORD • CONNECTICUT • U S A

Sluicing jets cut under the sheets and peel them off. The recovered white water fines and valuable fibres are then returned to the stock chest with the sheet, and the clarified white water is available for reuse.



at HUDSON
Pulp & Paper
Co.





This man is going to school . . . but he'll never graduate. He's the Appleton man who calls on you and he comes here periodically to learn the latest technological developments in felt design and manufacturing. This helps him to better help you find the answers to your felt application and performance problems. Talking felts with the Appleton man can be a rewarding experience. Appleton Woolen Mills—*a working partner with the paper industry* — Appleton, Wisconsin.

Appleton felts

USCOWELD PLASTIC PIPE FITTINGS

Greater Joint Strength—Faster Insertion—Thanks to

THE ONLY SOLVENT-WELD FITTING WITH AN INTERFERENCE FIT!

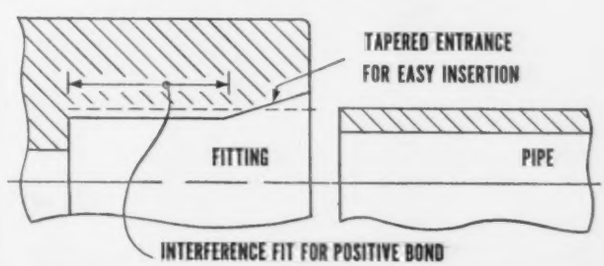
To get maximum joint strength, interference fit is a must! UscoWeld fittings are designed to provide at least a .005 inch *interference fit*. And UscoWeld fittings are a cinch to install because of a specially designed *tapered entrance socket*. U. S. Rubber has developed the unique UscoWeld fitting of the same tough, lightweight, corrosion-resistant thermoplastic as famous Uscolite® CP plastic pipe.

All UscoWeld fittings can safely handle the pressures recommended for the corresponding size of extra-heavy Uscolite pipe. Maximum recommended operating temperature is 170°F. Pipe can be cut to exact length, is easily installed in close quarters.

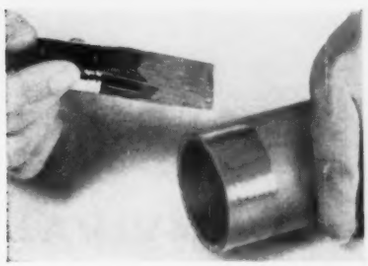
Obtainable at any of our 28 District Sales Offices, at selected distributors, or write us at Rockefeller Center, New York 20, N. Y.

In Canada, Dominion Rubber Co., Ltd.

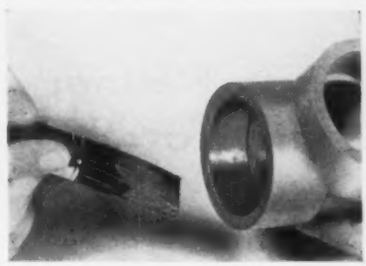
THE USCOWELD PRINCIPLE



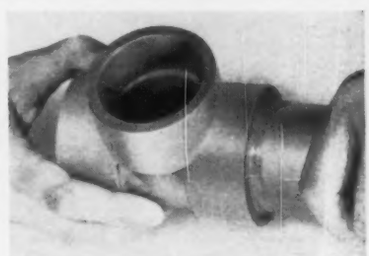
By combining tapered entrance socket and a .005 inch interference fit—even when the pipe is at the small limit of the diameter tolerance and the fitting at the large limit of its diameter tolerance—UscoWeld is easily installed, and the strongest solvent-weld joint available.



Apply Uscolite CP cement to the outside area of the pipe that is to be in contact with the socket.



Next apply cement uniformly to entire inside area of *tapered entrance* socket.



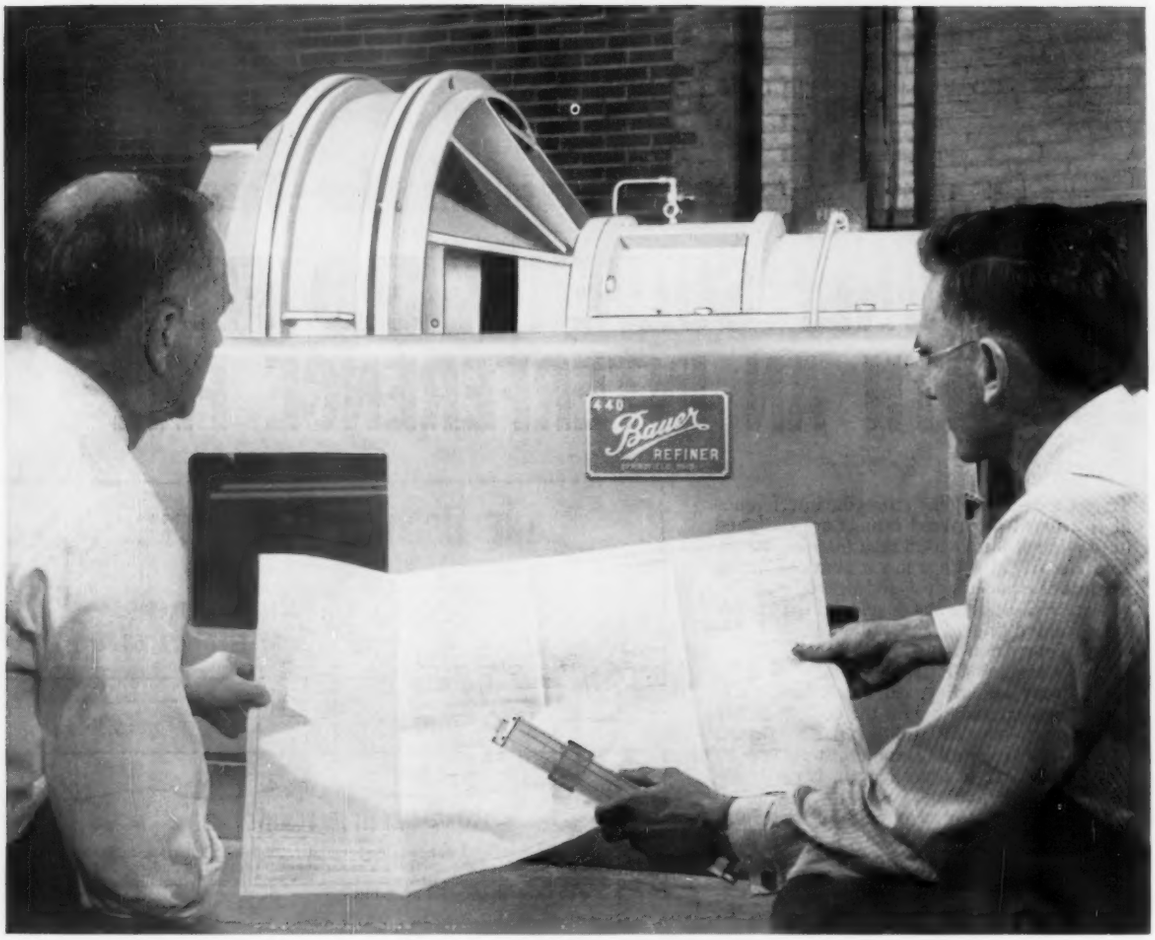
While both cemented surfaces are still wet, insert pipe in fitting and push until pipe bottoms against shoulder in the fitting.

ADVANTAGES

- fast, easy to assemble—tapered entrance provides easy insertion of pipe
- strong joint—interference fit provides for optimum fusion of pipe and fitting into homogeneous mass; joint strength not dependent on cement alone
- automatic alignment of pipe and fittings
- chemical resistance of the UscoWeld joint is the same as for Uscolite pipe
- UscoWeld takes maximum advantage of the inherent "solvent-weldability" of plastic pipe and fittings
- no threading required—just cut pipe square
- not necessary to allow for thread make-up variation—pipe can be cut to exact lengths
- easy to install in close quarters
- resists fatigue due to vibration or thermal stresses by elimination of stress concentration at thread roots.

Mechanical Goods Division

United States Rubber



Bauer Pump-Through Refiner Improves Quality and Lowers Costs...

HELPS MILL WIN BATTLE OF SURVIVAL

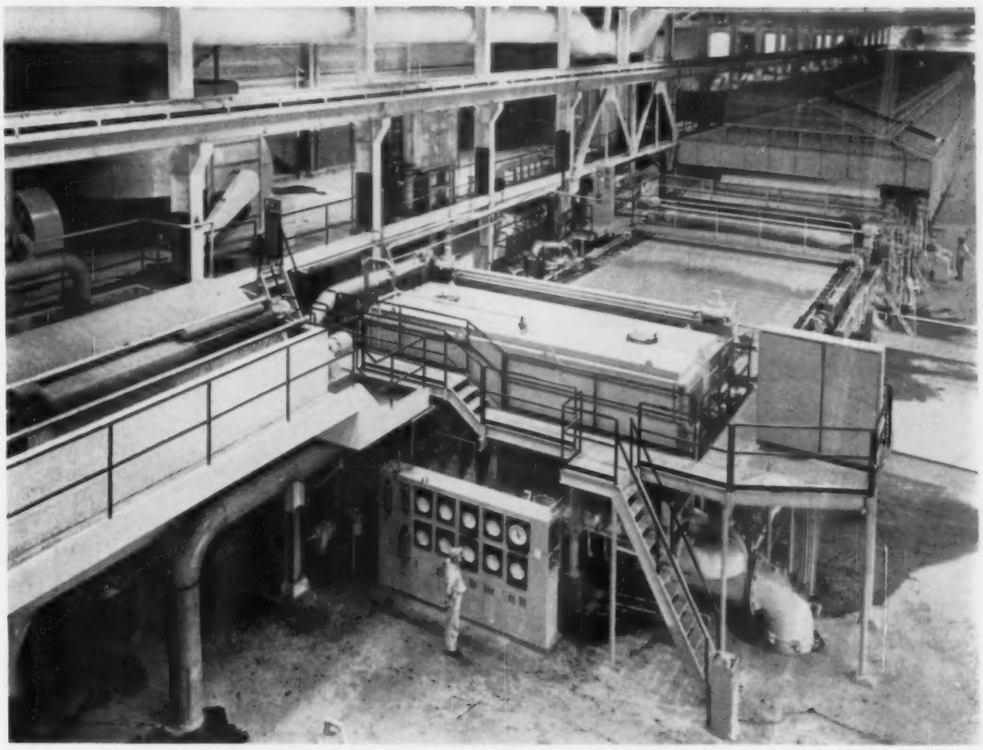
Our report No. 1056 explains how this refiner kept a mill in competition after a forced change to a new raw material caused serious production problems. Formerly using easy-beating straw in the manufacture of nine point corrugating medium, the mill switched to waste paper and found their jordans inadequate for the new refining requirements. A Bauer Pump-Through Refiner, installed after the jordans, improved end product quality at reduced costs and helped keep this mill in business.

The Bauer Pump-Through Refiner does an outstanding job of fiber separation, hydration and freeness control in stock preparation. It produces uniform, reproducible quality sheet with high mullen and tear values. Efficiency, low horsepower requirements and rugged design mean big savings in operating costs, labor and maintenance.

These modern refiners can supplement your present jordan capacity or replace jordans completely. Available in two sizes, they are used in producing liner board, bag paper, corrugating medium, cotton linter products, fine papers, tissues, newsprint and in other semi-chemical and kraft applications. Automatic controls and a wide variety of plates tailor-fit them to your needs.

May we show you complete details?

The Bauer Bros. Co.
DISC REFINER HEADQUARTERS
1706 Sheridan Ave., Springfield, Ohio



Neoprene Lumpbreaker Roll (264-inch face x 28-inch Finished Diameter x 24-inch Core Diameter) was supplied by Huntington Rubber Mills Inc.

We are proud to have played a major part in your roll covering work.
Our very best wishes to Crown Zellerbach Corp., Antioch, Calif.

Huntington **RUBBER MILLS Inc.**

For Rubber Roll Covering we are licensed on the west coast by Stowe-Woodward, Inc., Newton Upper Falls, Massachusetts

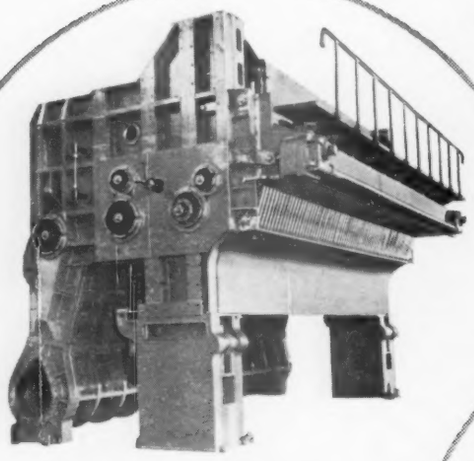
OFFICE & FACTORY: 344th St. South & Pacific Highway 99, Seattle, Wash.

MAILING ADDRESS: P.O. Box 6177, Riverton Heights, Seattle 88, Wash.

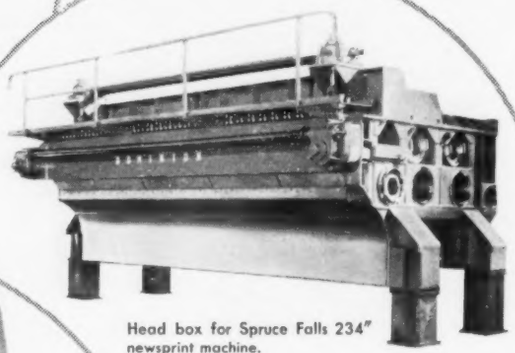
TELEPHONE: Tacoma, Wash., WAverley 8718

"DOMINION"

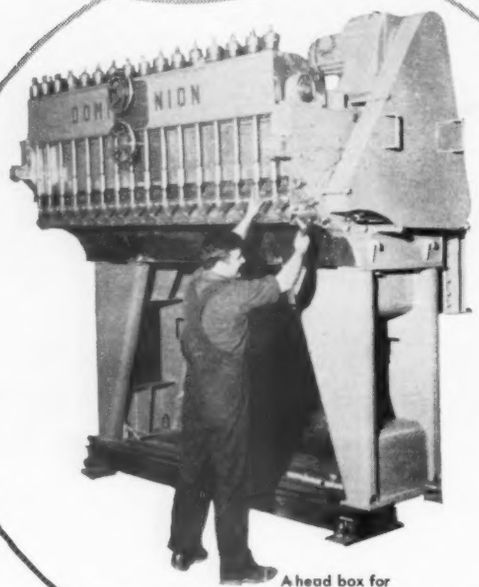
contributes to progressive improvements in Canadian paper making machinery



Dominion patented head box for Elk Falls 284" newsprint machine.



Head box for Spruce Falls 234" newsprint machine.

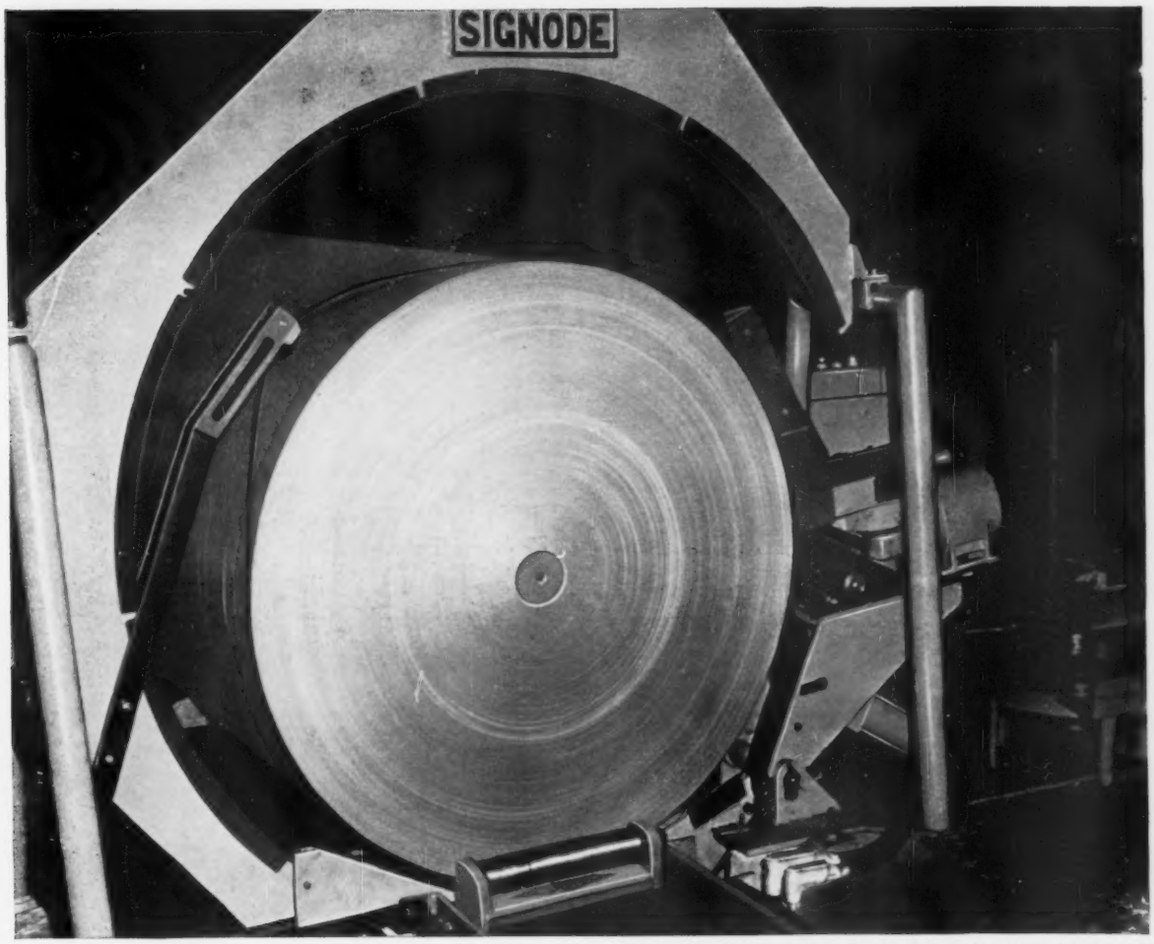


A head box for Howard Smith Paper Mills Cratstree Mill 96" Yankee Tissue Machine.

Three of the many new pressure type head boxes built and being built by Dominion Engineering— ensure controlled, uniform flow for paper machines regardless of stock, width or speed...

For further information, contact Dominion Engineering Company Limited, in Montreal, Toronto or Vancouver

DOMINION ENGINEERING
COMPANY LIMITED

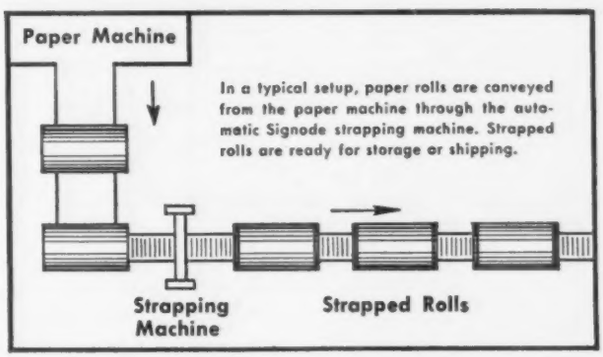


Machine applies strapping uniformly close to the edge of every roll.

Now! Automatic roll-end binding!

This new Signode roll-end binding machine is automatically controlled and operated. The strapping is straight, close to the edge, and uniformly tight and secure on every roll. The machine handles rolls from 32 inches to 60 inches in diameter and of any width —straps them more than fast enough for the largest of finishing room operations . . . automatically and dependably positions, tensions, seals, and cuts off the strap as the rolls are conveyed through it. There's nothing else like it!

These machines are now in operation in modern paper mills. For information on this important new development in the paper industry, call the Signode man near you, or write:


Paper Machine
In a typical setup, paper rolls are conveyed from the paper machine through the automatic Signode strapping machine. Strapped rolls are ready for storage or shipping.
Strapping Machine
Strapped Rolls

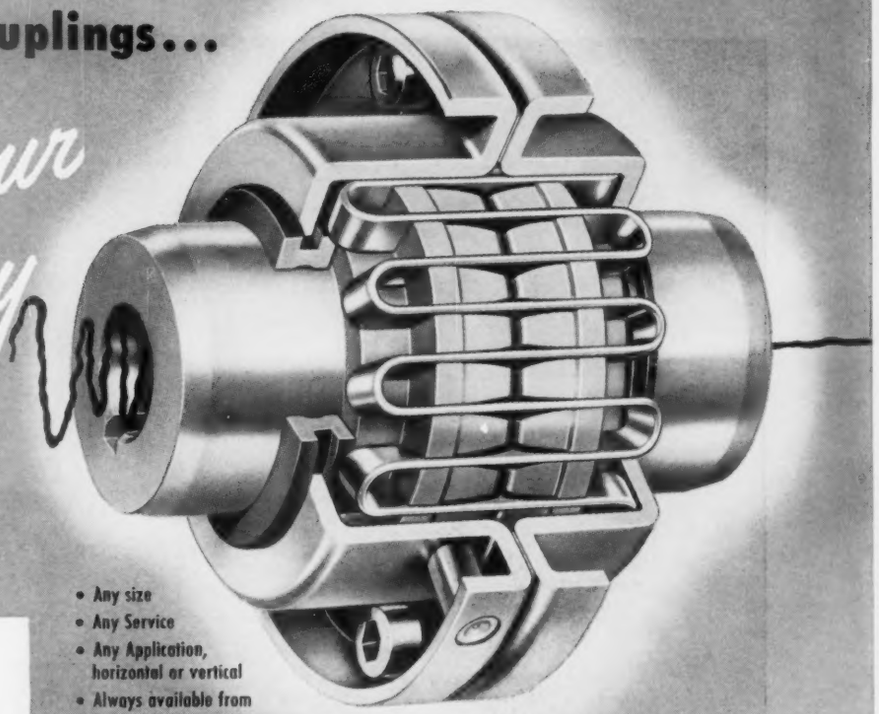
SIGNODE STEEL STRAPPING CO.

2672 N. Western Avenue, Chicago 47, Illinois

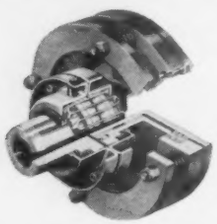
Offices Coast to Coast. Foreign Subsidiaries and Distributors World-Wide.
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

Falk Steelflex Couplings...

Protect your machinery in 2 ways



- Any size
- Any Service
- Any Application, horizontal or vertical
- Always available from factory, field or distributor stocks

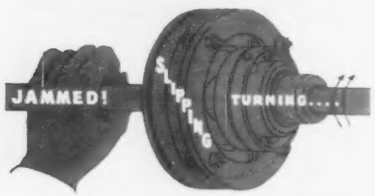


Falk Controlled Torque Couplings prevent damage from overloads

In applications where danger from overloads exists, use the FALK Type FT Controlled Torque Coupling. The Type FT has all the features and advantages of standard FALK Steelflex couplings—and, in addition, has an adjustable friction slip clutch, enabling the operator to set the coupling to slip at any predetermined overload.

This controlled-torque principle not only prevents transmission of dangerous shocks and limits overloads; it eliminates the breaking of shafts caused by jamming of driven equipment.

An outstanding advantage of the Type FT Coupling is that, as soon as the cause of the overload is removed, the entire coupling will rotate and transmit power without replacing parts or repairing coupling.



There's real economy in using Type FT Controlled Torque Couplings. Many users have reported that these couplings paid for themselves the very first time they slipped (under overload) because of the protection against damaged driving or driven machinery!

...cost less per year of service!

You get *double protection* when you connect your driving and driven machinery with a Falk Steelflex Coupling—the all-steel coupling with the exclusive grid-groove design! First, its *torsional resilience* smothers shock and vibration; and second, the Steelflex design prevents damage and lowered efficiency by accommodating shaft misalignment.

Why have increasing numbers of key men in industry standardized on Falk Steelflex Couplings? Their experience has proved that Falk Steelflex Couplings prolong the service life of their machinery... are trouble-free and need minimum maintenance . . . are easy to install, lubricate and disconnect . . . and *cost less per year of service* than ordinary couplings.

One basic Steelflex design—the type F, in its many sizes—is adaptable to more than 90% of all industrial applications. For applications involving danger from overloads, Modified Type FT Controlled Torque couplings (see column at left) are ideally suited. There are numerous other special or dual purpose Steelflex couplings for unusual applications. **Write to Department 247** for engineering bulletin, including selection and dimension tables.

THE FALK CORPORATION, MILWAUKEE, WISCONSIN

FALK

...a good name in industry

MANUFACTURERS OF:

- Motoreducers
- Speed Reducers
- Flexible Couplings
- Shaft Mounted Drives
- High Speed Drives
- Special Gear Drives
- Single Helical Gears
- Herringbone Gears
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HOW NATIONAL ANILINE TECHNICAL SERVICE CAN HELP YOU

in providing optimum color fastness on the furnish you must use.

When a mill wishes to produce a line of colored papers with definite fastness properties, a number of problems arise which require laboratory studies.

Our Technical Service Laboratories are well equipped and staffed to make these studies . . . and to help you with other paper color problems. You will find that our technical service is practical and prompt — whether you are creating a new sheet or duplicating a "sample-to-match." We invite you to use National Aniline Technical Service. And, for your every day needs always specify

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ALLIED CHEMICAL & DYE CORPORATION
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Akron Atlanta Boston Charlotte Chattanooga Chicago
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Portland, Ore. Providence Richmond San Francisco Toronto

Allied Chemical

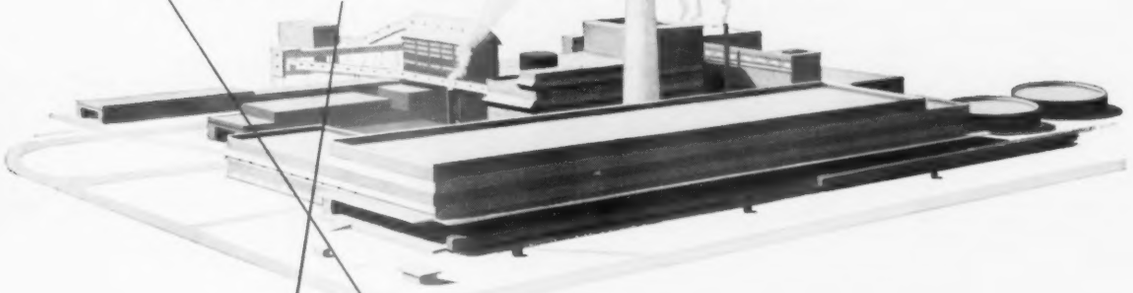
*SCRIPTITE: REG. U. S. PAT. OFF.

to give water resistance to printing boxboard and to jute liner.
SCRIPTITE 50 . . . *for unsurpassed printability and improved surface characteristics on boxboard.*

TRONA® *serves the Pulp Industry with*

2 QUALITY PRODUCTS

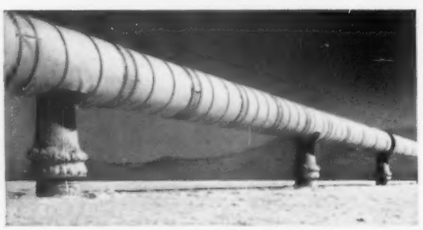
from **2 DEPENDABLE SOURCES**



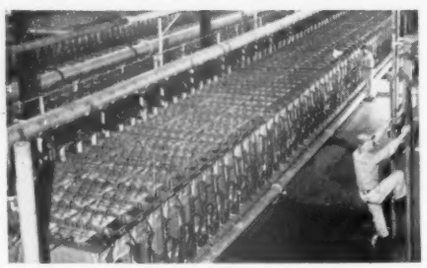
SALT CAKE
OF HIGHEST PURITY

SODIUM CHLORATE
FOR CHLORINE DIOXIDE BLEACH

SEARLES LAKE
at Trona, California.
Source of *natural* sodium sulphate, essential for quality kraft production



HENDERSON, NEVADA.
Source of $NaClO_3$ for the *SOLVAY* high-stage chlorine dioxide pulp bleaching process.



Add another step forward in American Potash & Chemical Corporation's continuing diversification program! Trona has long been the leading source of *natural* sodium sulphate (Na_2SO_4) from the brines of Searles Lake, so essential in quality kraft production. Now from American Potash & Chemical Corporation (Nevada) (formerly Western Electrochemical Company) Trona serves the industry with highest purity sodium chlorate, used extensively in the SOLVAY high-stage chlorine dioxide pulp bleaching process. Two dependable sources, two quality products—a combination that can't be beat!

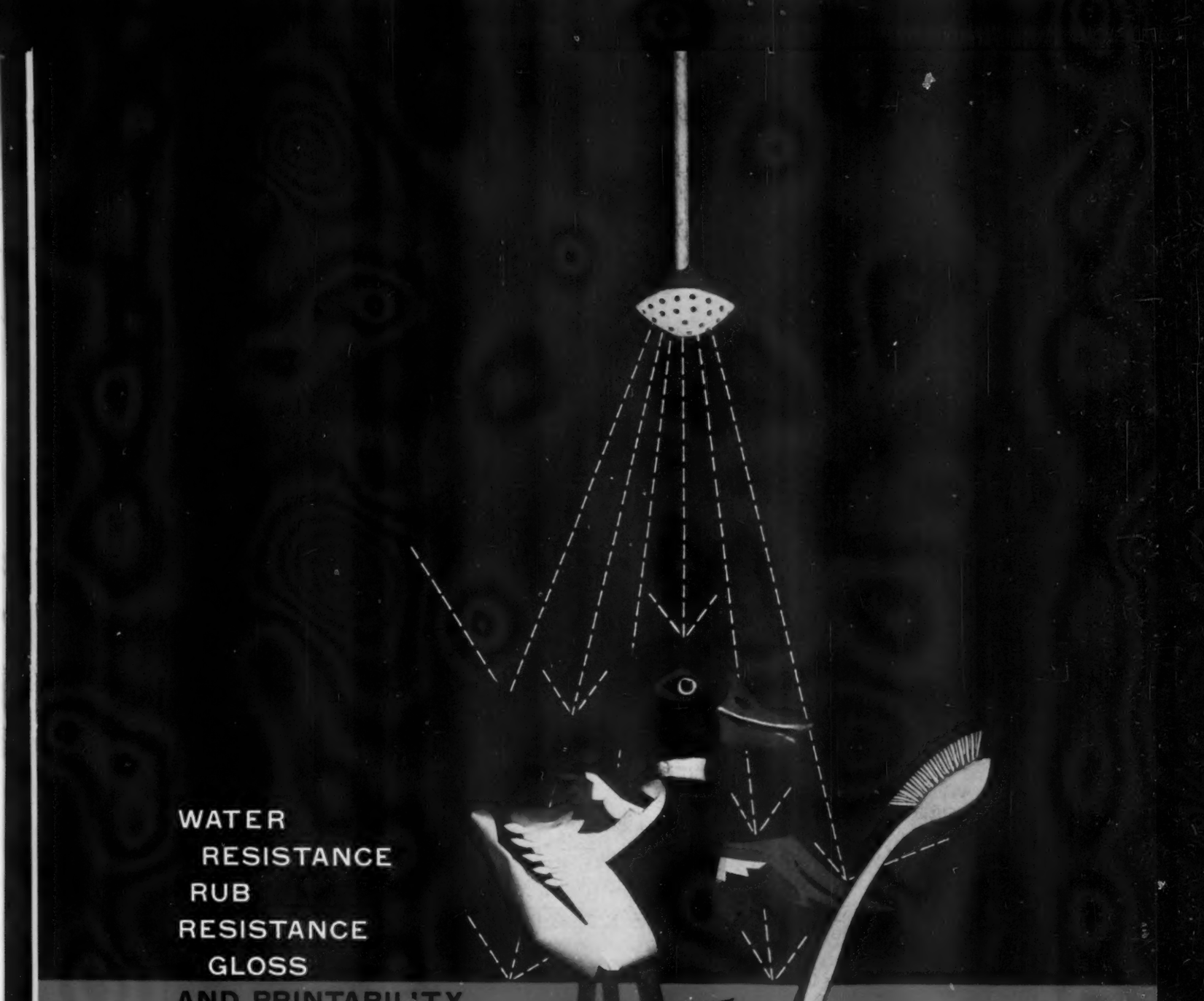
American Potash & Chemical Corporation

TRONA

Los Angeles New York Atlanta San Francisco Portland (Ore.)

Producers of: Borax • Potash • Soda Ash • Salt Cake • Lithium Bromine • Chlorates • Perchlorates • Manganese Dioxide • *and a diversified line of specialized agricultural and refrigerant chemicals*

Plants: TRONA and LOS ANGELES, CALIFORNIA
HENDERSON, NEVADA
(American Potash & Chemical Corporation (Nevada)
SAN ANTONIO, TEXAS (American Lithium Chemicals, Inc.)



SCRIPTITE* 54

for specialty and decorative papers

Scriptite 54 water-based coatings, applied on or off machine, give specialty packaging papers excellent water and wet rub resistance, good folding endurance. Shelf and wall papers can be given high gloss, exceptional printability, superior ink absorption and varnish hold-up properties. Upgrade your paper products with Scriptite 54. Write for laboratory samples and technical literature. And call on the Monsanto Paper Resins Department for technical assistance. Monsanto Chemical Company, Plastics Division, Room 1898, Springfield 2, Mass.

MONSANTO

*SCRIPTITE: REG. U. S. PAT. OFF.

The Monsanto Line of Paper Resins also includes

SCRIPTITE 33 . . . *a melamine wet-strength resin.*
SCRIPTITE 40 . . . *a urea wet-strength resin.*
SCRIPTITE 52 . . . *in combination with formaldehyde to give water resistance to folding boxboard and to jute liner.*
SCRIPTITE 50 . . . *for unsurpassed printability and improved surface characteristics on boxboard.*

A CONVENTION WITH NEW APPROACH

The program of the 38th Annual Convention of the American Pulp & Paper Mill Superintendents Association has been geared to meet the needs of operating executives of the pulp and paper industry of today.

New Angles
New Emphasis

Three General Conferences
Five Group Meetings

• • •

Communications
Pulp and Paper Mill Engineering
Pulp Mill Operation
Manufacture of Paperboard
Fine Paper and Tissue
Industrial Engineering
Community and Employee Relations

• • •

Plant Visits—Container Corporation of America (Ogden Avenue Mill) and R. R. Donnelley & Sons Co.

Plenty of Know-How
Plenty of Know-Why

ATTEND - LEARN - GIVE

The Dates—May 21-23, 1957

The Place—Hotel Congress
Chicago, Illinois

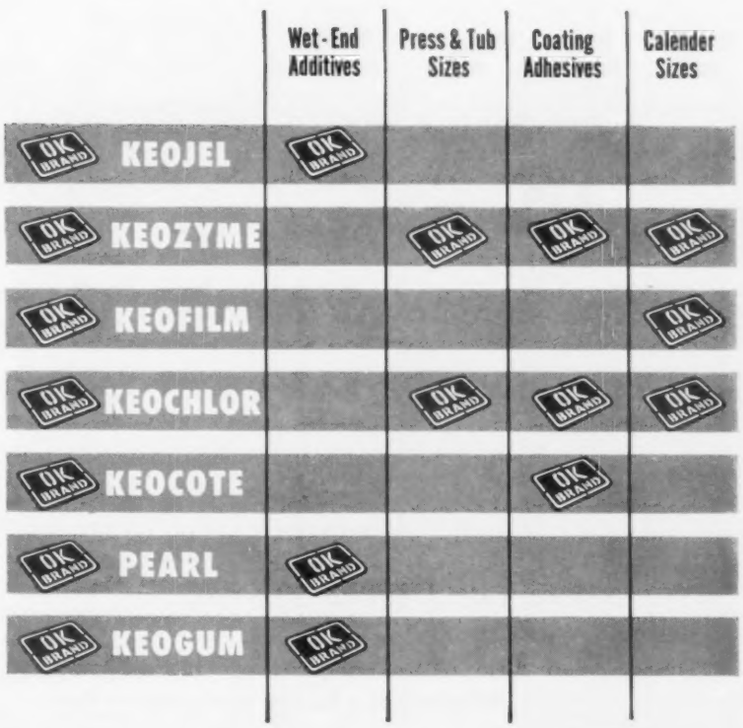
For more information, write, wire, or phone—

The American Pulp and Paper Mill Superintendents Association
327 South La Salle Street
Chicago 4, Illinois
Tele. No. WE-9-4743

...for superior paper at no extra cost

Use OK BRAND Starches

the complete paper mill line



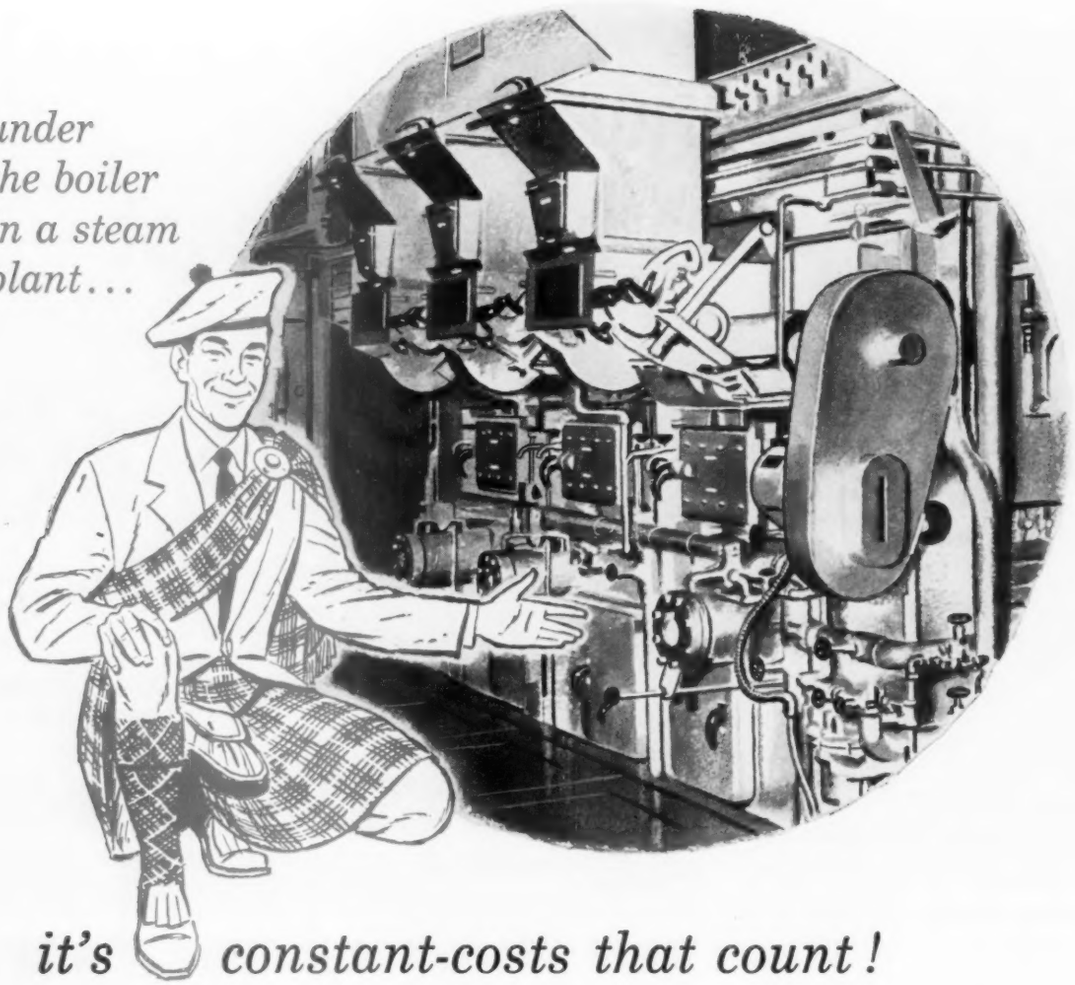
There's an OK Brand product especially formulated for every paper mill operation requiring starches and adhesives ...and there's no extra cost for these top-quality OK BRAND products.

There's no extra cost for Hubinger Technical Service either. If your mill needs a special starch product, phone or write for a Hubinger paper-starch technical service representative. He will be glad to help you solve your starch problems. You'll find him OK too.

The Hubinger Company

KEOKUK, IOWA

under the boiler in a steam plant...



it's constant-costs that count!

Be Thrifty! Expensive boiler installations designed to burn fuels with limited futures is doubtful wisdom. The sensible alternative is to *bank on Bituminous!* Plotting your costs over the long run will prove efficiency and lowest cost in most cases. For, Bituminous reserves are unlimited—they're nearest to most manufacturers—coal technology improves burning equipment, efficiency and cost year by year.

Let our Coal Technical Service plot a constant-low-cost Bituminous coal for your needs. *Ask our man!*

COAL TRAFFIC DEPARTMENT, BALTIMORE & OHIO RAILROAD
Baltimore 1, Maryland—Phone: LExington 9-0400

LINKING 13 GREAT STATES WITH THE NATION B&O

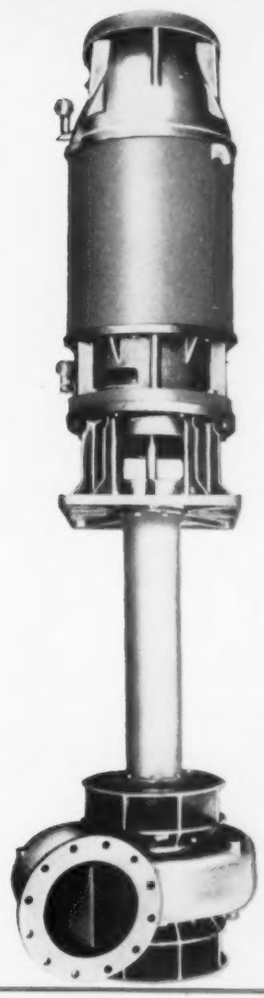
BALTIMORE & OHIO RAILROAD

BITUMINOUS COALS FOR EVERY PURPOSE

Bingham

TYPE "VS" DOUBLE SUCTION DOUBLE VOLUTE VERTICAL PUMP

SPECIALLY DESIGNED FOR PULP AND PAPER MILL SERVICE...CANNOT BECOME AIR-BOUND OR CLOGGED



REQUIRES ONLY MINIMUM-SIZE WET PIT

Bingham Type "VS" Pumps are being used as standard equipment throughout the Pulp and Paper Industry for handling stock, white water, water supply, disposal sump and other high capacity, medium head services. The vertical "VS" Pump requires only a shallow sump of minimum dimensions, permitting installations to be made on the same floor with flat screens, deckers, washers, save-alls, etc.

The "VS" Double Suction Pump has large suction openings and specially-designed impellers to handle air-entrained white water or stock without becoming air-bound or clogged.

The "Double Volute" design of Bingham VS Pumps insures radial balance of the rotating element throughout the entire operating range of the pump. This feature prevents wear of rotating parts due to the elimination of shaft deflection usually caused by "SIDE PUSH".

The "Double Suction" feature of this pump eliminates axial hydraulic thrust thereby permitting the use of standard vertical motors.

For complete information call your nearest Bingham office, or write for brochure 110.

Outstanding features of the Bingham "VS" Pump:

1. Will not become air-bound.
2. Will handle stock without clogging.
3. May be installed at convenient locations in mill flow line.
4. Operates successfully in basements or on any floor level.
5. Eliminates need for secondary dump chests.
6. Substantially reduces building costs.

Battery of Bingham Type VS, "Double Volute", Double Suction, Wet Pit Pumps handling 36 million gallons of white water per day from flat screens located on the same floor level in a large West Coast pulp mill.

Bingham SINCE 1921

DOUBLE VOLUTE PUMPS RADIAL BALANCE

BINGHAM PUMP COMPANY

General Offices: **2800 N.W. Front Avenue, Portland 10, Oregon**

Factories: **Portland, Ore. • Vancouver, B. C., Canada**

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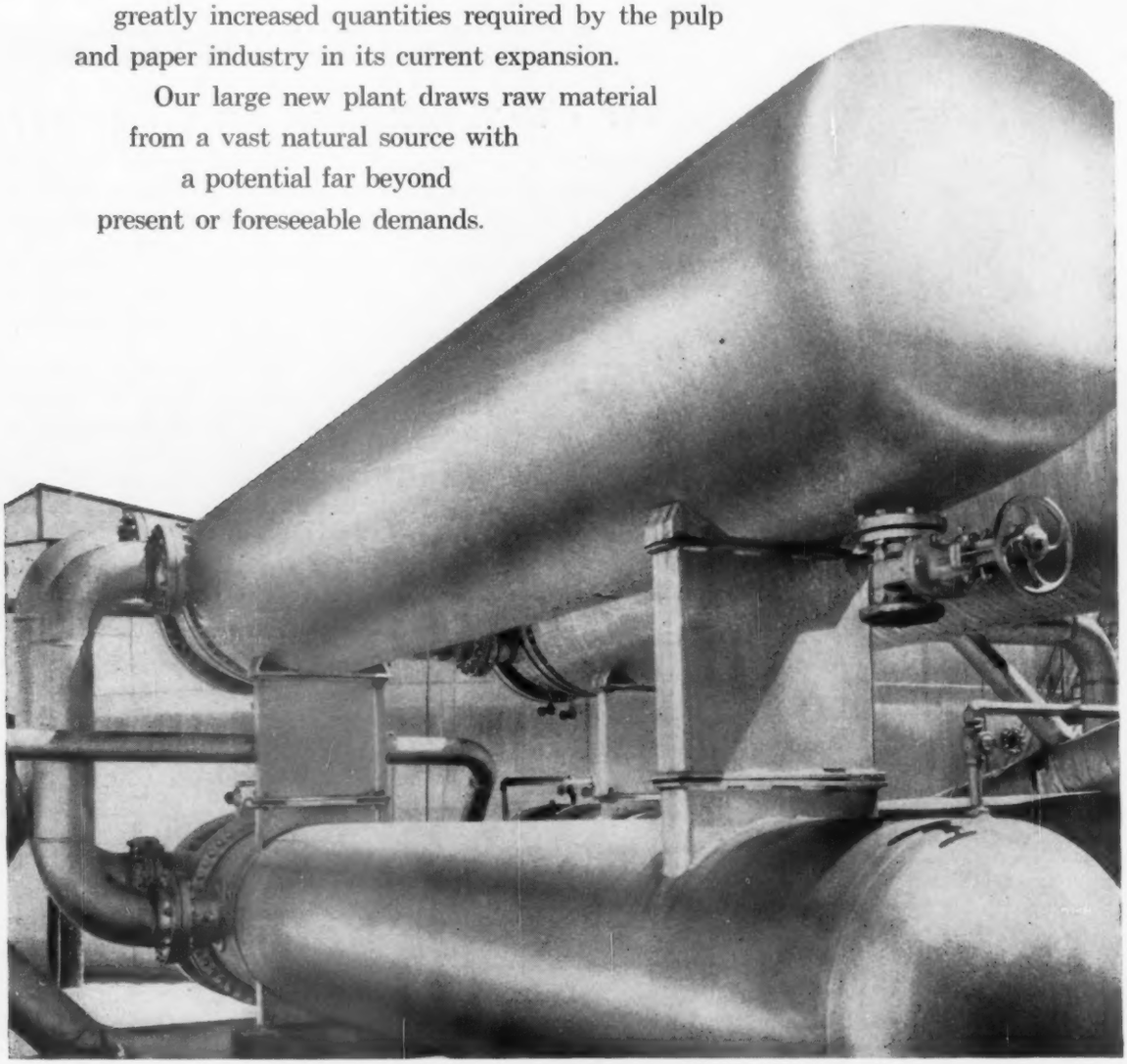
SALT CAKE is a primary West End product and we have the production capacity to meet your needs

At West End, salt cake is a prime product . . . not a by-product . . . and is being produced in the greatly increased quantities required by the pulp and paper industry in its current expansion.

Our large new plant draws raw material from a vast natural source with a potential far beyond present or foreseeable demands.



WEST END

West End Chemical Company

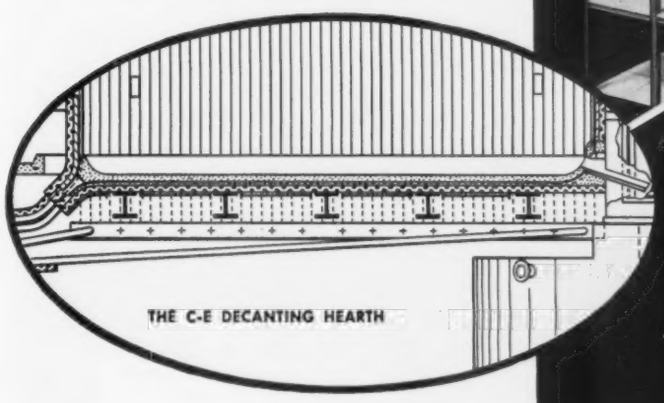
DIVISION OF STAUFFER CHEMICAL COMPANY

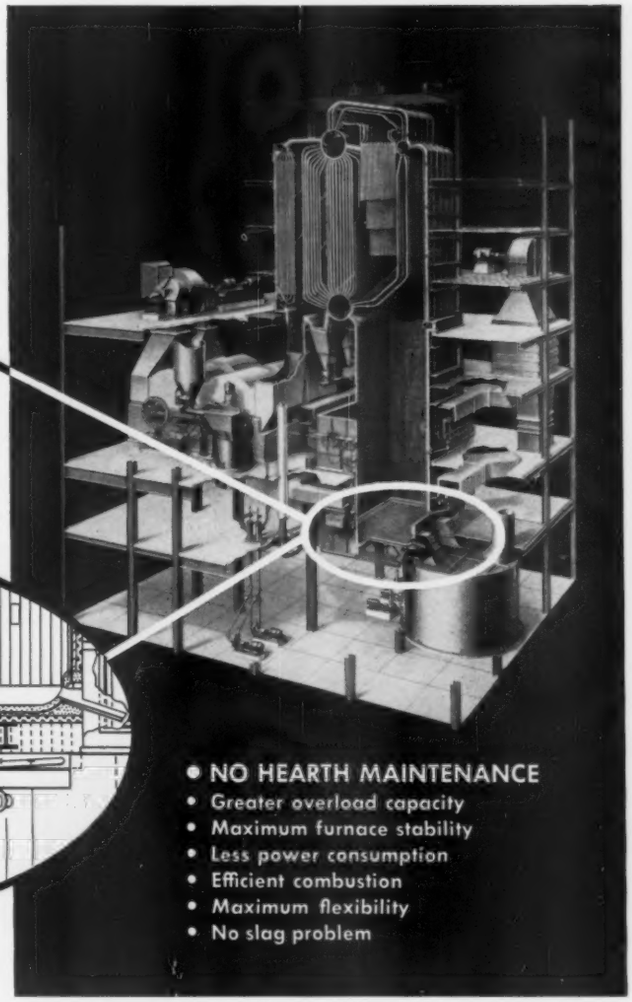
EXECUTIVE OFFICES, 1956 WEBSTER, OAKLAND 12, CALIF. • PLANT, WESTEND, CALIF.

SODA ASH • BORAX • SODIUM SULFATE • SALT CAKE • HYDRATED LIME

NO HEARTH MAINTENANCE HERE

FIFTY YEARS of service-proved experience. That's the cumulative total of the *twenty* C-E Recovery Units now in service and equipped with the C-E Decanting Hearth.





There is no recovery unit downtime for hearth repair with the C-E Decanting Hearth. Service-proved by the equivalent of more than fifty years of cumulative operating experience, this exclusive design feature puts an end to downtime and the cost and inconvenience it entails. With this design, a layer of chilled smelt is held in contact with the water-cooled furnace floor. The molten smelt rides on top of the chilled layer and leaves the furnace without ever touching the hearth refractory or the floor tubes.

This design feature is one result of Combustion's continuing efforts to make a good product better. Through the years, these efforts have produced many similar advantages. From the smallest to the world's largest, every C-E Recovery Unit offers you consistently high reduction performance, uniform fuel bed, efficient burning, a cleaner boiler, uniform gas flow, less steam for soot blowing, cleaner superheater surface, greater overload capacity, less power consumption and minimum stack losses. Good reasons all, why—before you buy—you should *SEE* C-E.

COMBUSTION ENGINEERING

C-E

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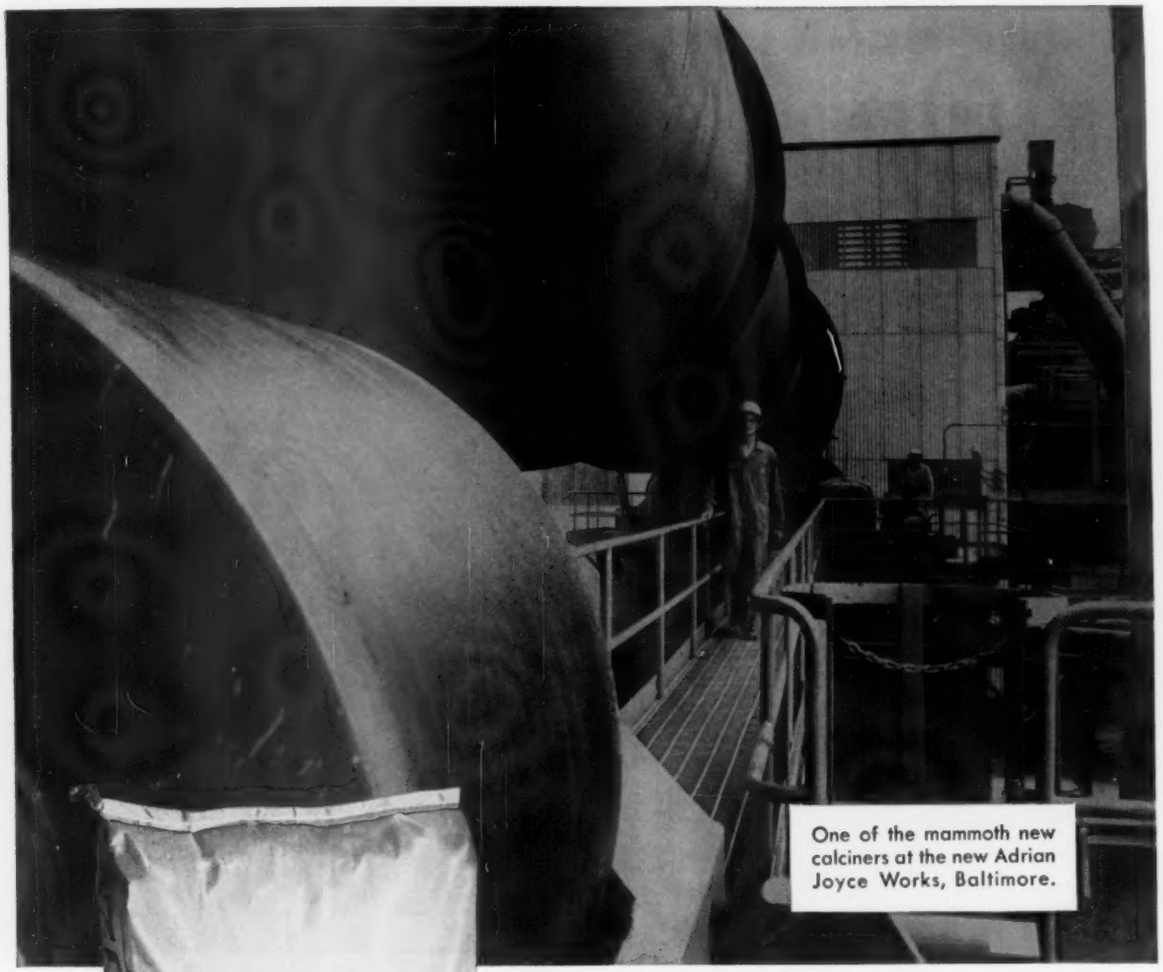
B-951

Steam Generating Units • Nuclear Reactors • Paper Mill Equipment • Pulverizers • Flash Drying Systems • Pressure Vessels • Home Heating and Cooling Units • Domestic Water Heaters • Soil Pipe

From the industry's most advanced pigment plant comes...



One of the mammoth new calciners at the new Adrian Joyce Works, Baltimore.

ZOPAQUE®
TITANIUM DIOXIDE

. . . the whitest white pigment available!

You can count on Glidden to supply your complete titanium dioxide requirements. Our new Adrian Joyce Works at Baltimore more than doubles the available supply of *Zopaque* Titanium Dioxide. Further plant expansions are now being made to help meet your growing needs in the years to come!

Zopaque gives you these advantages:

- Highly accelerated dispersion rate.
- Exceptional hiding power.
- Outstanding gloss and color retention.
- Low reactivity.
- Rutile and Anatase grades.

By the makers of SUNOLITH Lithopones and EUSTON White Lead

THE GLIDDEN COMPANY

Chemicals - Pigments - Metals Division

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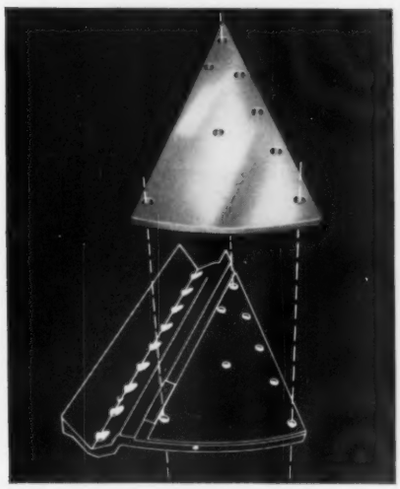
uniform chips

it's an OK Hardened Wear Plate, and it's enjoying a high degree of popularity in quality-conscious pulp mills.



OK hardened wear plates installed on your chipper discs is the one sure way of getting uniform chips.

OK wear plates have a hardened surface (3/16" depth) of ball-bearing tool steel, clad to a mild steel backing. That's why they remain in service up to three years without being removed. Compare this with ordinary cast iron plates.

OK wear plates, in actual tests under severe service conditions, stay on the job four times as long as competitive plates and consistently produce uniform chips.

OK hardened wear plates are made to your exact specifications and delivered to you hardened, ground and drilled ready for installation.

For complete information write Dept. 50-F.
The Ohio Knife Co., Cincinnati 23, Ohio.

THE OHIO KNIFE CO.

CINCINNATI 23, OHIO

Manufacturers of OK HOG KNIVES, VENEER KNIVES, CHIPPER KNIVES, PLANER KNIVES

Another Monsanto First: Size in white bags! No asphalt, no threads, no extra cost!

NEWS: Mersize RM in white bags you can use in your furnish

Now Mersize RM also comes in a bleached kraft bag so white, so clean that it won't discolor your furnish!

Forget about burning or carrying away asphalt laminated bags. New Mersize bags are strong-fibered bleached kraft—usable in almost all furnishes. An extra benefit that Monsanto brings you *first*—and at no extra cost!

NO FOREIGN MATERIAL—Not only have we eliminated the asphalt, but also the threads. Mersize RM's new white bag is the *pasted* valve type.

The ink is water-soluble blue that enhances the brightness of white paper furnishes.

Mersize is drum-dried—and resists caking better than spray-dried products.

Order several trial pallets in your next Mersize shipment.

MERSIZE GIVES YOU:

20% to 30% lower sizing costs; better sizing with less size solids; low Air Stabilization Factor; high resistance to feathering; better sizing of hard-to-size pulps.

Out of every 10 mills that have given Mersize a thorough mill trial, 9 have become steady users.

MERSIZE: Reg. U. S. Pat. Off.

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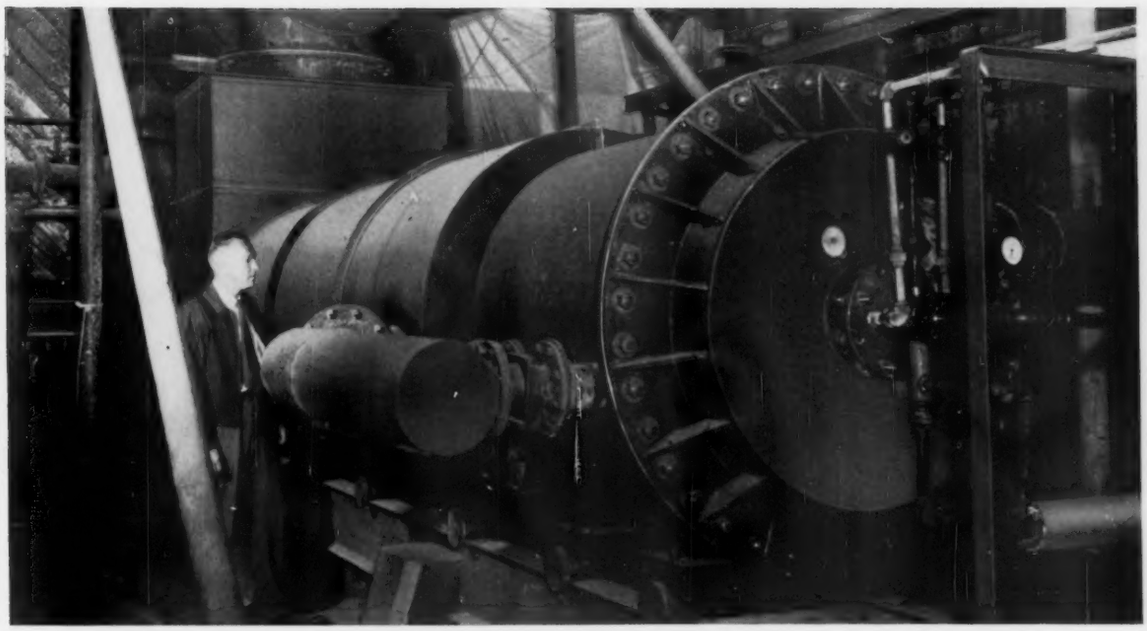

This 15-ton-per-day Chemipulp-KC sulphur burner operates at 18.5% SO_2

The secondary air admitted through the manifold shown, is preheated in the space between the outside of the burner and the surrounding jacket. This preheated air assists in combustion and in maintaining a high percentage of SO_2

Chemipulp-KC Jet Type Sulphur Burner

• Compact • Efficient • Long Life
• Low Maintenance Costs
• Fast Start-Up — Instant Shut-Down
• Handles Any Type of Sulphur

In the new Chemipulp-KC Burner the molten sulphur is sprayed into the burner as a fine mist. The secondary heated air is then introduced in several stages, resulting in clean operation and long service life.

Because of the small mass, the burner quickly reaches its maximum efficiency temperature of 2100° F., minimizing the production of SO_3. This burner operates efficiently at all SO_2 gas concentrations between 12% and 18½%. At its operating temperature of 2100° F. the bitumen in the dark sulphur is completely burned, so that dark sulphur as well as bright sulphur is efficiently burned. Shut-down is instantaneous.

This unusually compact unit is now available in capacities of 1, 2½, 5, 12, 15 and 25 tons per day, and each different size burner operates efficiently at loads of 25% to 150% of rated capacity. Both installation and maintenance costs of this new burner, which is a development of the KIMBERLY-CLARK CORPORATION Research Program, are considerably lower than rotary burners and combustion chambers of equal capacity.

Chemipulp Process Inc.

Woolworth Bldg. Watertown, N. Y.

Associated with Chemipulp Process Ltd., 253 Ontario St., Kingston, Ont.

Pacific Coast: A. H. Lundberg, Orpheum Bldg., Seattle • Lundberg-Ahlen Equipment Ltd., 146 E. Broadway, Vancouver

They've cleared the way for a brand new, more uniform pulp

It's only a clearing now, near Crofton, British Columbia, on the southeast coast of Vancouver Island. But by the year's end it will be the source of an outstanding new pulp. This new pulp will have unusual characteristics of uniformity, quality and workability. Brightness will be in the 88-90 range, suitable for the manufacture of high quality papers.

Here, in this clearing, British Columbia Forest Products Limited is erecting a $38,000,000 pulp mill, ultra-modern in design and operation.

Crotton Kraft furnish will consist of the finest Western pulp woods. Sawmill chips and logging salvage will all be utilized.

The mill site of 50 acres is 70 feet above sea level. The mill will be serviced by barges, deep sea vessels, railroads and trucks. Sawmill chips will arrive in 80,000 cubic-foot barges. They will also be trucked in by special trailers. The balance of the wood supply will be received as logs to be de-barked and chipped at the mill.

Mead Pulp Sales, Inc. will be sole distributor of the new Crofton Kraft bleached pulp. Plan now to take advantage of this new, *uniform* pulp and this great new source. We shall be happy to give you details about the pulp or the new British Columbia Forest Products Limited mill.

MEAD PULP SALES, INC.
Distributors of Wood Pulp
Bleached and Unbleached Chemical and Mechanical Wood Pulp
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New HOMELITE EZ

...the Direct-Drive CHAIN SAW with ALL of the features YOU want

Only 19 pounds

Full 5 Horsepower

New Low Cost

Faster Cutting Speeds

AND WITH THE NEW HOMELITE FLOATING POWER, you'll find handling ease you never knew before. The all-angle, any-position carburetor gives you full power cutting — whether you're felling, bucking, notching, limbing or under-cutting.

Floating Power lets you cut with less effort, less fatigue than any other chain saw. Because the Homelite EZ weighs only 19 pounds you can carry it anywhere. Its full 5 horsepower cuts through 8″ Oak in 5 seconds and 18″ Pine in 14 seconds. And the three bar sizes — 17″, 21″ or 25″ will handle trees up to 3 feet in diameter.

The EZ brings you Homelite dependability at a new low cost — not just a low initial cost, but also lower maintenance and operating costs than any other direct-drive chain saw.

See this new floating power now! Try it and you'll know why the Homelite EZ offers easier cutting, faster cutting, more profitable cutting for your dollar.

Ask your Homelite dealer for a free demonstration. Also ask about the convenient time payment plan.

A COMPLETE LINE OF CHAIN SAWS FOR EVERY CUTTING JOB

Homelite builds and sells more chain saws than any other company in the world.

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KEEP LOGGING COSTS DOWN . . . PRODUCTION UP

with help like this

- **6 TONS OF BALANCED TRACTOR WEIGHT . . . plus 20-in. track shoes for traction in the woods, flotation in the swamps.**
- **1,000-HOUR LUBRICATION INTERVALS for truck wheels . . . eliminate daily greasing . . . convert service time to work time.**
- **ONE-PIECE STEERING CLUTCH AND FINAL DRIVE HOUSING . . . insures perfect alignment, low maintenance, long life.**
- **UNIT CONSTRUCTION . . . makes major service simple, fast.**
- **ALL-STEEL, BOX-A MAIN FRAME . . . provides full-length protection.**

PLUS dozens of other basic advantages pioneered and proved by Allis-Chalmers. Features that help you get more logging jobs . . . make a profit when you're through. Now is the time to have the Allis-Chalmers HD-6 crawler working for you. Allis-Chalmers, Construction Machinery Division, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS *Engineering in Action*

REPORT on new shovel-crane standards:
(one in a series)

AT THE MILL OR IN THE WOODLANDS — there's a Link-Belt Speeder, either crawler or rubber-tired, ideally suited to mechanize pulpwood handling. All models have hydraulic-power steer, easy access for low-cost maintenance and service.

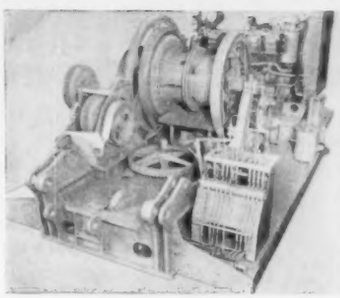
Increasing cycles per shift

Standard on every Link-Belt Speeder, Speed-o-Matic power hydraulic controls minimize operator fatigue. Response is fast, positive, precise

Exclusive with a Link-Belt Speeder, this true power hydraulic control system allows the operator to put his machine through its paces at the flick of the wrist. He's not subject to costly end-of-the-shift letdown . . . stays fresh, pushes his machine to its high limit throughout the shift.

Hydraulic-actuated clutches are self-compensating for heat and normal lining wear. Kick the engine over and go to work. There are no frequent stops for clutch adjustments.

It's advantages like these that put Link-Belt Speeder years ahead of the field — in productivity, in low maintenance and service costs. Start having your equipment dollars earning bigger returns. See your Link-Belt Speeder distributor now. Or write: Link-Belt Speeder Corporation, Cedar Rapids, Iowa. 14,322



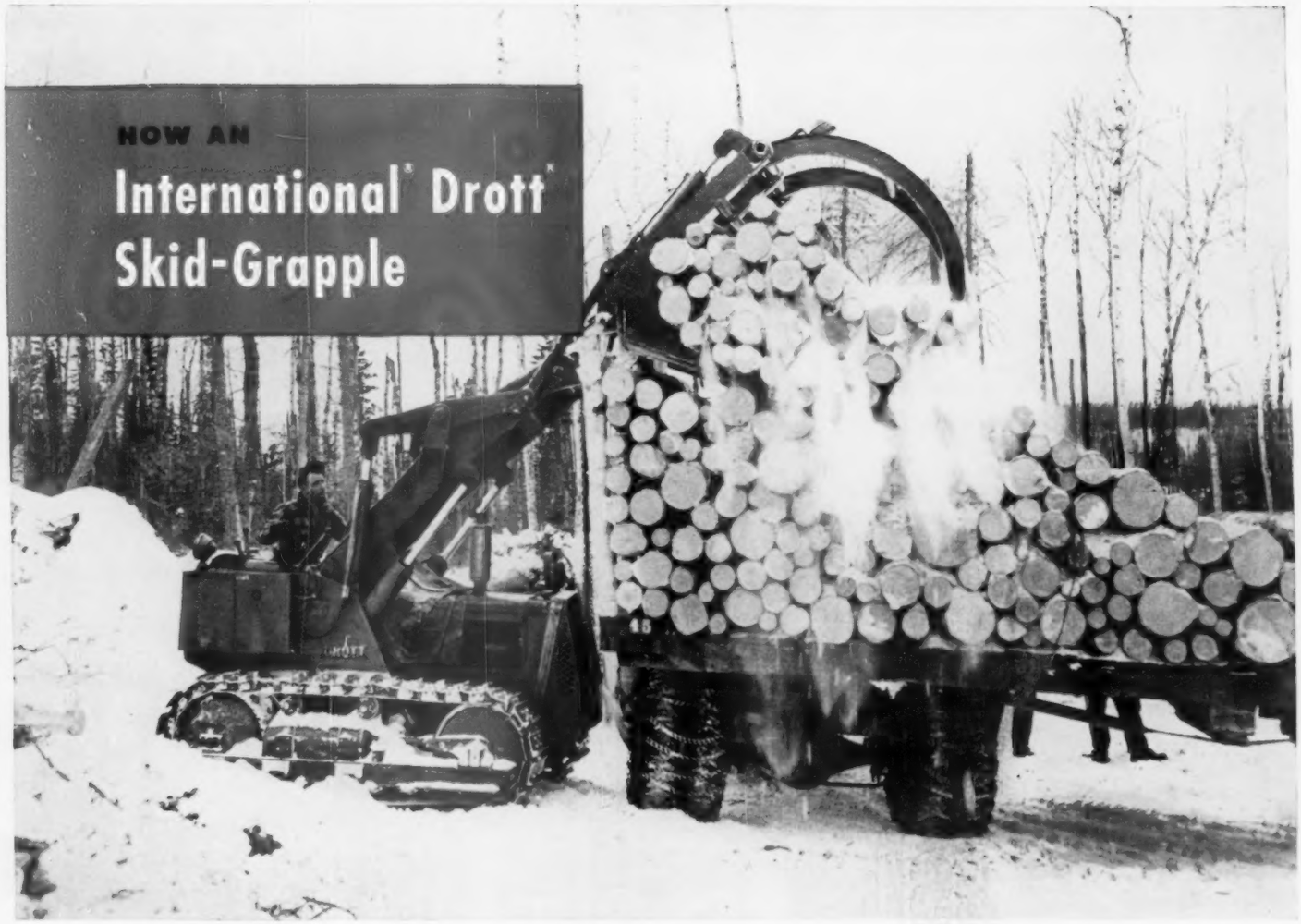
MORE USABLE HORSEPOWER than other machines using the same make and model engine. Yet a Link-Belt Speeder remains well within the engine manufacturers' recommended operating speeds. It's possible because a Link-Belt Speeder is an extra-strength machine, designed and built to take full advantage of an engine's available power. This extra strength is evident in the size and quality of shafts, gears, clutches and structural members.

TRUE POWER HYDRAULIC CONTROLS—a Link-Belt Speeder exclusive, Speed-o-Matic power hydraulic controls, transmit pressure through oil directly to the clutches . . . eliminate over 150 wearing mechanical parts. Clutches engage smoothly, positively—without jerk, jump or lag. Oil is maintained at proper pressure by an engine-driven hydraulic pump.

It's time to compare . . . with

LINK-BELT SPEEDER

Builders of a complete line of shovel-cranes . . . with exclusive Speed-o-Matic power hydraulic controls



saves you $1.00 per cord or more!

Your big savings start from the time cutters stack your pulpwood in quarter cord or larger piles, when you mechanize with an International Drott Skid-Grapple. You don't have to touch it again by hand!

Just slide the Skid-Grapple's lower prongs under the woodpile. Apply exclusive triple-power, pry-action break-out—using the big Drott-designed skid-shoes *on the ground* as the fulcrum point. Clamp onto the load securely with the exclusive top grab-arm.

And even if the logs or pulpwood are mudded in or frozen down—you'll get big payloads every time!

You have the hydraulic power, the "reach," and positive load control to pile high into trucks. Separate top grab-arm control lets you spot-place each grapple-full of wood with ease, safety, and accuracy!

You have big, cost-cutting capacity, too. The International Drott TD-9 pulpwood Skid-Grapple, for example, loads up to one cord of 8-foot pulpwood in each pass—240 cords, or more daily, with only a one-man "crew"! And whatever length your pulpwood is cut, there's an International Drott Skid-Grapple size to handle it efficiently!

Compare your present pulpwood loading or repiling method to International Drott Skid-Grapple efficiency—and calculate the big cash difference. *Producers report it's $1.00 or more per cord, in favor of the Skid-Grapple method.* Prove what it means to be able to switch a Skid-Grapple with a Four-In-One or standard Skid-Shovel bucket—and have a multiple-duty, road-building, excavating, and material-handling unit. Try exclusive, shock-swallowing Hydro-Spring advantages. See your International Drott distributor for a Skid-Grapple demonstration!

International Harvester Company, Chicago 1, Illinois
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Best little woods worker yet...best buy, too!

All the features you want and need for your work are in this new OC-4—just as if you drew up the specs yourself!

Successor to the famed Oliver OC-3, this new model lifts performance to its highest level yet for tractors this size. It has the practical, compact size that makes working the most difficult areas a snap. New, protected crawler design with four lower track wheels gives it maximum ground contact...exceptional traction.

Heavy-duty 4-speed transmission delivers the widest speed selection for any condition—a low 1½ m.p.h. for steady progress through soft ground with full load behind...to lively 5½ m.p.h. for getting places fast. Big 9" clutch is a smooth-working marvel ...and longest lasting.

The modestly priced OC-4 will bring more than new speed to your operation—it will save you real money with its efficient, dependable, hard-work eagerness. 21.85 d.b.h.p. gasoline engine. Mounts winch, dozer, loader—whatever attachments you want. See your Oliver distributor and try the OC-4 yourself. Or write for information.

OLIVER OC-12 is tops for woods work in its 53 d.b.h.p. range. A rugged, economical crawler complete with Oliver POWER-TURN—the better idea in tractor steering that gives you power on both tracks all the time, even on turns. Ask about it.

OLIVER **THE OLIVER CORPORATION**

400 West Madison Street, Chicago 6, Illinois

a complete line of industrial wheel and crawler tractors and matched allied equipment

Before: View of one Area When Test Started

After: Here is Same Area with Trees Planted

An Experiment in Site Preparation

Brunswick Pulp & Paper and Caterpillar Tractor combine forces to determine how to grow more trees per acre

● Some 350 forestry experts gathered one day recently in the sandy, palmetto-pocked woods outside Brunswick, Ga., to watch an impressive demonstration in land clearing and site preparation.

The fact that the demonstration had attracted so many, on comparatively short notice, was almost as impressive as the demonstration itself. As one woodlands manager put it: "Two years ago you wouldn't have seen 50 people at a demonstration like this . . . they'd have said it was too expensive." But times have changed and the trend toward increased mechanization in the woodlands has been gaining speed. Where mules and handsaws were, until very recently, the tools of many pulpwood producers, today, tractors and chainsaws are taking over. And where the forest lands were once left to reseed and restore themselves, today, the trend is toward helping the land to grow trees.

It is a well-established fact that in some countries like Sweden and New Zealand, where site preparation has become a well-established practice, growth of as much as seven cords per acre is not uncommon. In the South today, a close average for pine growth is about half a cord an acre, perhaps less. The aim of most pulp and paper companies is to get their woodlands to a one-cord-per-acre class.

With the price of land on the increase and legislation threatened in several Southern states to limit the amount of land a company can own (directed specifically at this industry), it has become even more important to increase the yield per acre of Southern forests.

There is a third variable, too. Some 75% of Southern forestlands are owned by small landowners, most of whom have 500 acres or less and who are lethargic toward harvesting pulpwood or reseeding their holdings. Southern forests have already undergone two periods of liquidation by lumber and naval stores producers, the most recent after World War I.

As Lucian Whittle, Woods Division manager of Brunswick Pulp & Paper Co. and host at the demonstration pointed out: "We have gone through an era of liquidation . . . now is a time of creation." This creation, it becomes more and more apparent, must be as prolific as possible.

How to Help Trees Grow . . .

At least one answer to increased land yield seems to lie in preparing the land before planting the trees; removing energy-draining undergrowth and water-hungry oaks and hardwoods and cutting off roots so new growth cannot start.

To study this theory closer, Caterpillar Tractor Co. had, two months before the demonstration, shipped a quarter of a million dollars worth of equipment to Brunswick to begin a series of experiments in land preparation. Brunswick Pulp & Paper Co. had been working closely with them.

Initially, the land to be cleared and planted covered about 700 acres and would take from early in January until late April to complete. It was generally poor ground, low "hammock" land, populated by upland hardwoods, mixed pine hardwood and cut-over pine with a thick undergrowth of

palmetto and brush. The ground was sandy or marshy.

Six track-type tractors ranging from 63 to 320 hp were used. Auxiliary equipment included Rome offset harrows, Fleco rakes, cab guards and stumpers, Hyster stump drivers, winch and cutting blades. The areas cleared have been appraised for time and cost per acre.

A Pattern for Land Clearing . . .

Before the demonstration was over, a definite pattern began to form. Wooded, densely overgrown land must first be cleared of big trees, 26 in. and thicker. Then the area can be chained, a relatively new method in which a heavy anchor chain is attached to two tractors which drag it through the woods, knocking down material on the first pass and uprooting it on the return. Following chaining, the area can be raked and windrowed. Then stumps are either sheared off at the ground or uprooted and finally the land is harrowed and planted.

How Chaining Works . . .

Perhaps the most interesting demonstration (saved as the climax of the afternoon) was chaining. An anchor type chain weighing 50 lbs. per ft. (12,200 lbs.) was attached to a D8 and D9 tractor. Operating from 100 to 120 ft. apart, the tractors first raked a path 1/2 mile long clear, then uprooted most of the material on the return pass.

It was pointed out that to be economical, an area at least 1/4 to 1/2 mile long should be cleared and ample area should be allowed for tractors to turn. A third tractor can be used to assist the chain hauling machines. Type and class of tractor would depend on the density and type of land being cleared. Raking and windrowing are appreciably reduced when chaining is employed first.

Effectiveness of Chaining

At top, heavy anchor chain begins journey along half-mile section of dense trees and undergrowth. Note stump "erupting" as chain tears it out of ground. Bottom, same area 12 minutes later, as tractors return, cutting roots and finishing job.

Total cost per acre (assuming severe operating conditions and including operator using tractors with rakes, cab guards, controls and anchor chains): $20.25 for D8 class; $18.95 for D9. Of this, $5.95 is the cost of chaining alone for both tractors. Time: .9 acres per hour for D8; 1.7 acres per hour for D9.

Getting Rid of Stumps . . .

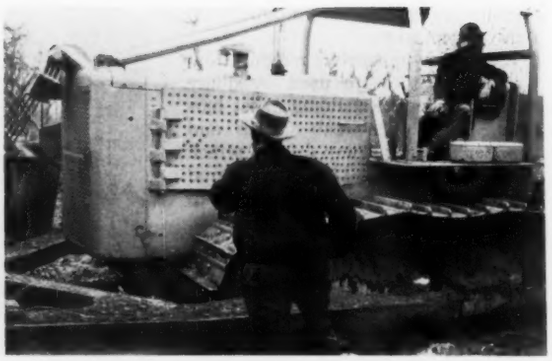
The problem of stumps was attacked in several different ways. First an area was cleared and windrowed. Then a D8 class tractor equipped with a shearing blade was used to cut off small trees and stumps at ground level. A shearing blade with stinger—a long prong extending from the left side of the blade—was employed to slice off trees 3 to 4 in. from the ground when trees were too big for the shearing blade to take alone.

This stinger cut off a 42 in. live oak tree in one pass, the prong piercing the tree and splitting it first, then the blade snipping it off. Once the tree is felled, the smaller blade is used to cut off the stump at the ground. (It took this same blade, attached to a D8 class tractor, only 8 min. to chop off a 90 in. live oak.)

Pride . . . and Questions, at End of Demonstration

Host at demonstration, Woods Division Mgr. LUCIAN WHITTLE, of Brunswick Pulp & Paper Co., proudly points to cleared site which is now ready for planting. It was burned over palmetto, thick with brush.

Brunswick's Woodlands Mgr. SID COOPER, ponders question put to him by KEN TROWBRIDGE, former pres. of Southern Pulpwood Conservation Assn. and Woodlands Mgr. of North Carolina Pulp & Paper Co.



Scenes at Site Preparation Demonstration
Woodland "How-to-Do-It": special steel grating has been attached over usually open engine of tractor to prevent limbs and refuse from injuring tractor engine or causing fires.

Tearing up thick undergrowth, big D8 tractor with rake on front, Rome harrow on back, windrows brush and small trees, harrows earth at same time.

Ready for action, this Fleco shearing blade has formidable looking stinger for use in cutting down big trees. In foreground is 42-in. live oak which stinger and blade cut down in one pass. Stinger splits tree and the blade shears it off.

Torn out of the earth. Fleco detachable stump puller shears off roots first, then literally pries the stump out of ground.

Total cost: 30¢ per tree for live hardwoods 30 to 34 in. in diameter. Cost for shearing stumps: 3.4 stumps per min. at a cost of $4.17 per hour. (In 18 min., 62 stumps of various diameters up to more than 2 ft. were sheared clean.)

Other stump removal equipment was displayed, including the Fleco detachable stumper which cuts the roots laterally and pries the stump out of the ground and the Fleco pull stumper, a large spear-type instrument which prongs the stump and pulls it up, designed for D9 and other heavy tractors.

A 2-tractor system for clearing heavy trees and windrowing was also exhibited. Here, a D8 tractor with a K-G shearing blade, operating in a circular pattern to reduce deadhead time, was used to knock down standing trees and heavy brush. It was followed by a D7 type tractor and rake to complete windrowing.

Cost (including owning and operating cost and operator's salary): $16.70 per acre.

The Final Touch . . .

Harrowing was the final test before the seedlings were actually planted. Here, the type of ground dictated the type of tractor and harrow used. They ranged from D8 class machines with heavy duty Rome 24-30 offsets to the small D4 with a 14-28 harrow. The bigger tractors were used mostly in dense palmetto areas with scattered heavy stumps; the lighter tractors were employed in partially burned light palmetto areas where stumps were widely scattered and small.

In single pass discing, it is interesting to note that the D4 penetrated to a depth of 7 in., harrowed 2.9 acres per hour for a cost per acre of $2.69, plus equipment cost of $7.75. The D9, working in heavier underbrush and under poor conditions, harrowed to a depth of 9 in. at a total cost of $7.50 per acre, plus $21.70 equipment cost.

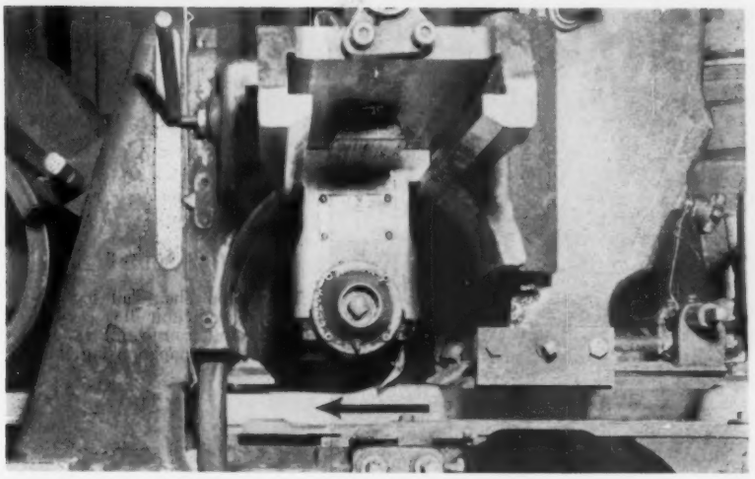
It was emphasized that the type of tractor and auxiliary equipment used should be dependent on the type of land to be prepared. It would, therefore, be uneconomical to use a heavy tractor where the smaller one would do the job.

What Is the Conclusion? . . .

It was clearly demonstrated at Brunswick that even the toughest sites may be effectively prepared for planting. Whether this type of site preparation will aid appreciably in increasing the yield per acre of our Southern forests may be a while in the proving. But those who have been engaged in site preparation and who have made studies of its effectiveness in other countries are convinced that it is one clear answer to the problem of how to get more trees out of each acre of land. As one woodlands manager put it: "I came here to be a skeptic and I'm leaving a disciple."

And there was one other aspect, too, which was brought out by a visiting newspaperman who knew little about the problem of growing wood and harvesting it but who presented a bit of basic philosophy to those on the bus with him:

"I realize," he said, "that this is all new and exciting but it shouldn't be really, you know. After all, this is the Twentieth Century. You've got to adopt modern methods. What would you think if you drove out through Kansas and saw a farmer plowing a field with a tree limb being pulled by a man. You'd think he was nuts. He'd probably think the same thing if he found out you are trying to grow a crop without plowing at all . . . or harvesting it with a handsaw and a mule."



For Higher Utilization
Prototype chipper-blanker for pre-sizing lumber ahead of planer knives removes excess wood as pulp chips. Arrow on 2x4 below cutterhead shows direction of travel.

This Machine Makes Chip Blanks

● A new processing machine of direct potential benefit to pulp producers is in test production on the West Coast. It's a cutterhead component operating in conjunction with a planer, for removing excess wood from lumber in the form of pulp chips. As a result of an examination of these chips, one of the largest kraft-producing mills on the Pacific Coast reported having found them "to be of excellent quality as to size and shape . . . and determined they would be entirely satisfactory for use in pulping."

The prototype component has been installed at L. H. L. Lumber Corp. by Planing Mill Foreman E. M. Key, inventor-developer of the unit. Although intended for installation between feed table and the planer proper (like a blanker), the unit was inserted in place of the machine's top profile head because space limitation made it impractical to otherwise locate it for developmental purposes. Mr. Key expects to have his chipper-blankers commercially available sometime this summer.

The machine can be set accurately for cutting to pre-determined sizes suitable for most conventional lumber widths and thicknesses. Leaving 1/16-in. on face and edge for finishing has been found most satisfactory to date. He reports that the chip potential ascertained for his chipping component in this mill is 25 to 40 units per 150,000 bd. ft. of green lumber processed through the planer. He sees possibilities of "cutting lumber-finishing costs to zero" as result of marketing the incidental chips.

This chipperhead turns in opposite direction of conventional planer heads and cuts pre-determined length chips ranging by 1/16-in. multiples from 1/2 to 3/4-in. long.

New Barker in Use in South

A mechanical barker with hammers developed in New Hampshire is in use at several points in the South. Hosmer Machine & Wood Working Co., Contoocook, N.H., is developer of the new barker. Sales in South are handled by Witco Machine Co.; in West by Nicholson Mfg. Co.

One big Southern pulp and paper company has three of them in use. Another in the South is using a pilot slab barking unit in one of its woodyards.

Study Site Preparation Data

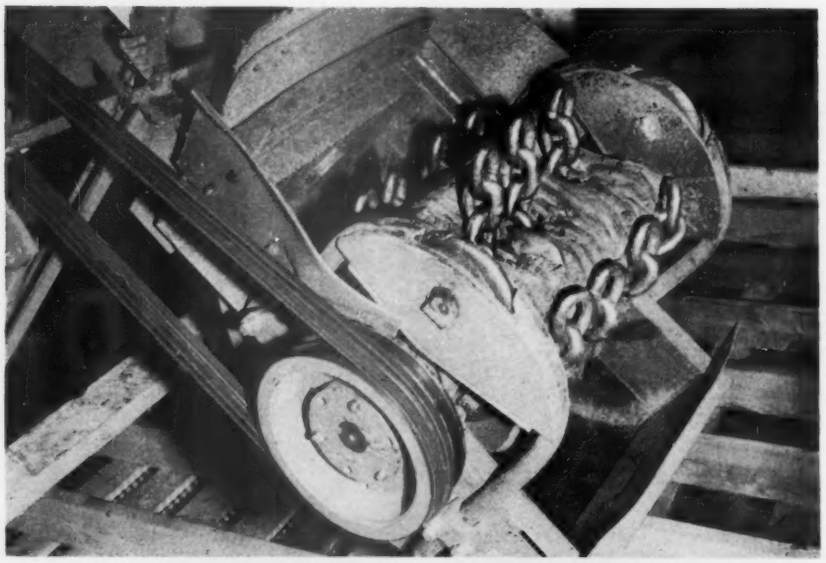
Florida-Georgia Tractor Co., Jacksonville, Fla., and Savannah, Ga., in cooperation with International Harvester Co.'s Construction Equipment Div., have for several weeks been demonstrating TD24-241 series torque converter crawler tractor equipped with front and rear cable control units, bullgrader, engine forest side shields, and canopy. Both front and rear cable control units were mounted on the unit for demonstrating purposes.

From demonstrations on pulp and paper company lands throughout north and central Florida and southern Georgia in timber conversion projects, a detailed cost analysis of land clearing and windrowing in site preparation is being made.

It is intended that a cross section of site conditions be encountered by taking the unit to lands of pulp and paper companies. Also, personnel of woodlands and land management divisions of the companies were able to witness operations under their own site conditions.

Upon completion of this program, enough data from varied areas will have been accumulated so that a definite pattern of conclusions and indications may be arrived at. A photographic study of conditions prior to, during and after the operations on each site is being made. These will supplement cost reports and clarify site conditions encountered.

Demonstrated on South's Timber Conversion Projects
International Harvester TD23, equipped with cleanup rake, shovels small trees, brush and debris into rows for burning.



A New Debarker

The Eaton chain-flail log debarker head. Found: a catalyst to precipitate sawmill residue into a prime papermaking fiber.

Debarking winter wood at a small sawmill in Vermont. ". . . doesn't cost anything to debark because you're gaining . . . in sawmill production."

New Slab-to-Chips System Makes Debut

● Pulpwood and sawmill men alike are watching with keen interest a new slab-to-chip-concentration yard program now making its debut in the Northeast. Its impact may spark changes in the economics of fiber procurement.

For sawmill operators, especially small producers, it offers added revenue.

For the pulpwood industry, it is a source of good papermaking fiber produced in chip form from material already available and not necessitating cutting any additional trees.

Sawmill residue utilization is not new but the big problem has been to develop the potential utilization from small sawmills. Ordinarily, these mills just couldn't furnish material to pulp mills because they couldn't afford the big hydraulic or mechanical debarkers.

But now a new log debarker, invented by John C. Eaton, president of Eaton Lumber Co., may be the catalyst to precipitate more intensive use of sawmill residue—especially from the

smaller sawmills.

Mr. Eaton operates a 3.5 million bd. ft. a year sawmill at the headwaters of the White River at Rochester, Vt. His log debarker, of the chain-flail type, operated so successfully from the start that he dreamed up the idea of positioning other units at nearby sawmills to debark logs before sawing, then feeding the left-over clean slabs to his concentration yard at Rochester where they are chipped.

Previous practice (and still standard among other sawmills) is to square the rough, unbarked sawlog with four cuts. By debarking the round log before sawing, the operator avoids fouling his saws, keeps them sharper, in operation longer. He also has a clean, debarked slab which has prime value as papermaking fiber.

Yards Mushroom . . .

His idea of one concentration yard has mushroomed into three with more in prospect. "I have recently purchased land at East Baldwin, Me.," says Mr. Eaton," for the fourth concentration yard."

Present yards are at Chestertown, N.Y., East Middlebury and Rochester, Vt. Total chipping capacity is around 22,000 cords a year, will soon expand to around 30,000 cords.

Three additional sawmills are expected to feed Chestertown and East Middlebury bringing the total number of sawmills to 20. Other sawmills are being fitted up in Maine (5) and New Hampshire (2).

To date some 36 Eaton log debarkers have been sold ($10,800 plus installation) and the White River Machine Co., fabricator and distributor of the debarkers (owned by Mr. Eaton), is now working on a lighter, cheaper ($7,500) model.

Features of the Eaton log debarker are:

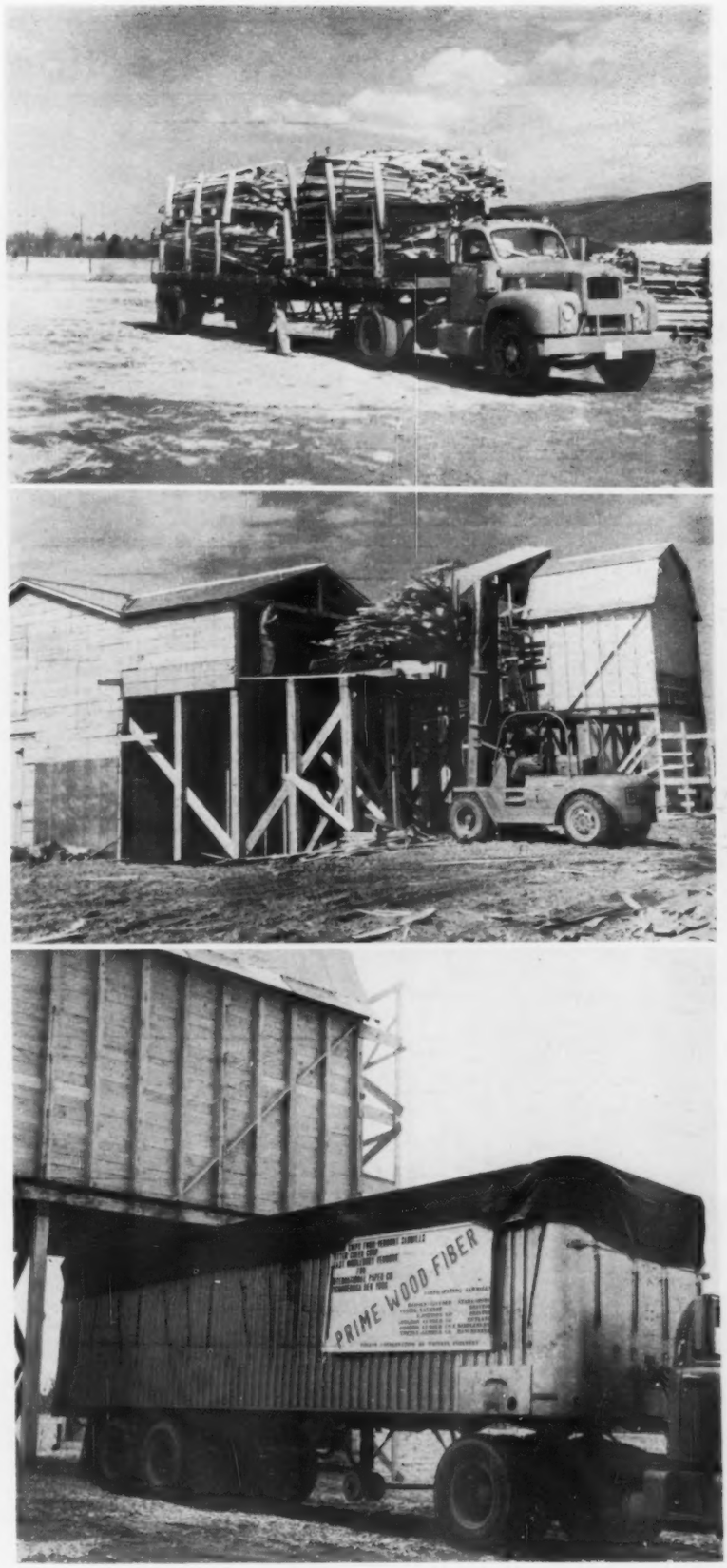
1—Its relatively low cost.

2—Its rugged, simple construction. The debarking head (chain-flail type) is stationary; logs are moved under it by a typical sawmill carriage.

3—Simplicity of operation—only 3 controls are used.

4—No special tools are needed for repairs.

Minimum economic requirements



Slabs to Chips to Mill

(Top) Debarked slabs check in at slab-to-chip-concentration yard, are unloaded, weighed by scale on fork-lift truck, depalleted and yarded . . .

(Center) Bundled slabs are retrieved from yard storage, positioned on infeed of conveyor, manually fed into Soderhamn slab chipper. Chips are screened, stored . . .

(Bottom) Prime wood fiber is loaded into chip truck for hauling from one of three concentration yards (a fourth is in the works) in New York and Vermont.

to make a debarker installation feasible are 1.5 million bd. ft. a year; a total of 15 million bd. ft. a year capacity sawmills is minimum requirement to set up a concentration yard.

How Eaton Scheme Pays Off . . .

Enterprising Mr. Eaton's plan is this: He will provide the log debarker; the sawmill owner debarks the logs before sawing, pays off the cost of the debarker at the rate of $1 per ton for the resultant debarked slabs.

The slab-to-chip concentration yards are cooperative. The sawmills truck their debarked, bundled slabs to the concentration yard. A fork-lift truck unloads the bundles, weighs each with a Lift-Truck scale mounted on the fork-lift, and puts the bundle in yard storage.

Slab bundles are reclaimed by the fork-lift truck, positioned on the infeed conveyor ahead of the spout of the Soderhamn slab chipper.

Fans mounted on the chipper blades blow the chips to a blower pipe, dropping the chips onto a Link-Belt double-deck chip screen. Acceptable chips are taken by a series of chain flights to the 4-pocket chip storage bins with a total storage capacity around 120 tons.

Concentration yards (cost: $80,000 each) are a 3-man operation.

JOHN C. EATON, who told his unusual story of slab to chip system to PULP & PAPER.

Chips Go to IP Mill . . .

Chips are trucked from the three yards to the Ticonderoga, N.Y., mill of International Paper Co., which recently installed a chip unloading system patterned after a similar unit at IP's Georgetown, S.C., mill. Unloading facilities are open 16 hours a day.

Mr. Eaton is currently supplying IP with 80 cunits a day of hardwood spruce, hemlock and pine chips. Each is kept separate. (A cunit is a 100 solid cu. ft. of wood of any given species).

Mr. Eaton has around $400,000 invested in his idea, hopes to get it back through his 5-year contract with the sawmill operators. Under terms of this contract, the operators share in the revenue from sales of chips. From this amount, Mr. Eaton is allowed yard operating expenses, a five-year depreciation on his investment and $1 per ton commission.

"I maintain," says Lumberman Eaton, "that it doesn't cost anything to debark because you're gaining more than the cost of debarking in sawmill production."

Some Testimony from Operators . . .

Here's a few for-instances:

1—One sawmill operator jumped his daily production from 10.5M bd. ft. per day to 12.5M bd. ft. in one day after installing an Eaton.

2—Another operator's saws were down 17 times in one day (ice, dirt in bark, etc.) before installation, rarely down after.

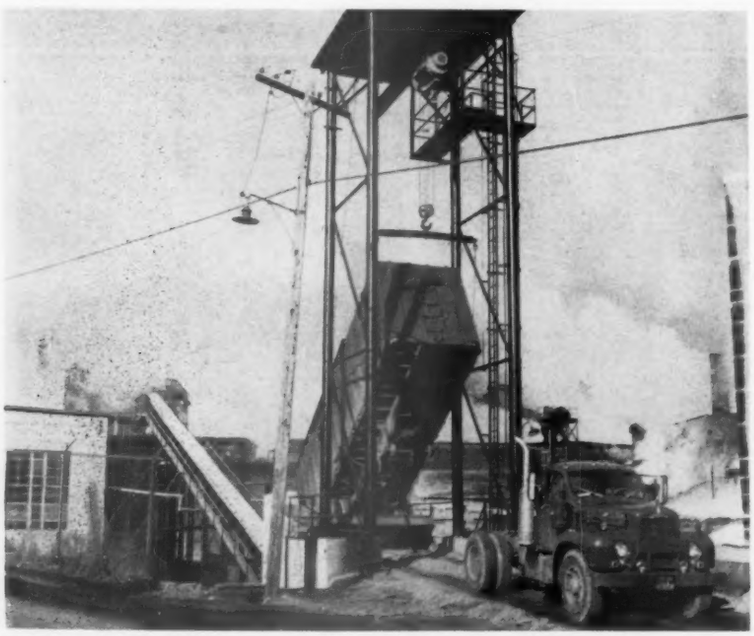
3—One operator told PULP & PAPER he figures it saves him $50 a week in saw bits alone.

4—One operator used only three C-links in 3 weeks for total sawmill production in that time of 180,000 bd. ft.

5—Mr. Eaton's original debarker is still flailing away in continuous operation since June 1955 on an estimated 3.5 million bd. ft. a year without any major maintenance.

Two pulpwood men, working for a large Northeastern pulp and paper company, recently spent two days visiting Eaton debarkers operating all types of wood (softwood, hardwood and winter wood). They told PULP & PAPER: "This new debarker is the cat's whiskers. It's a simple machine, doesn't require special tools to repair it, is rugged and can debark even frozen wood."

A pulp and paper company in New England recently installed an Eaton, like it very much; another is positioning five at sawmills convenient to its pulp mill.



From Concentration Yard to Pulp Mill

Chip unloader at International Paper Co.'s Ticonderoga, N.Y. mill. Unit is patterned after similar installation at IP's Georgetown, S.C. mill.

To Speed Forest Growth

Japanese scientists predict use of fertilizer will cut ten years from the time it takes to grow pulpwood. They also foresee a 30% to 40% increase in wood production in planted forests by using chemical fertilizers. A booklet by Dr. Takeo Shibamoto, professor of forestry at Tokyo University, titled "Fertilizing Forest Lands" describes research work supporting these predictions and stresses Japan's need for increased wood output. It emphasizes the economics of forest fertilization. Write to: Dr. E. D. Crittenden, director of research, Nitrogen Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N.Y.

Warning to South: Guard Your Water Resources

● Although forests of the South are generally conceded to hold the key to industrial power, soil and water are now running a close second—if not equally as important. This is especially true of water, in view of government reports of lowering underground water levels in many parts of the South.

"There is no absolute limit to which the South can grow and prosper, except the limitations placed on us by water."

That was Vance Miles Jr., Gulf States Paper Corp. forestry manager, speaking as he keynoted the annual Southern Forestry Conference of the Forest Farmers Association in Atlanta in mid-March. Big and little owners of timber belong to this group, including industries, farmers—one at Atlanta was an M.D. who started a forest plot as an investment. This group is credited with being probably the most influential one in national or state forest legislative circles.

Mr. Miles suggested that careful planning should be employed in the use of "nonrenewable resources." Water, he said, could govern future industrial growth of the South.

Forest growth and production could feasibly be doubled in a matter of relatively few years. But this thesis, he said, loses much of its potency when one considers that forests are a renewable resource, while soil and water are nonrenewable from a practical and economic standpoint.

Water, Water, Everywhere . . .

Like the ancient mariner, who was surrounded by "water, water, everywhere" but had not a drop to drink, the South's industrial giants, too, could find it hard to quench their big thirsts if water supplies are not carefully guarded.

"It is imperative," he said, "that we stop whatever losses are now occurring in these nonrenewable essentials."

Although he made no concrete suggestions as to how this should be done, Mr. Miles indicated that scientific progress might provide one answer; management and planning by the industries themselves might provide another.

The Big Gulp . . .

Strains put on our water resources by civic and industrial use were cited by Mr. Miles: 272 billion gals. of water used every day in the U. S. alone, a per capita demand of 1,600 gals. a day. By 1975, this figure will rise to more than 2,000 gals. a day, a daily gulp of 453 billion gals. A ton of paper requires the use of 50,000 gals.; a ton of steel, 60,000; a ton of rayon, 200,000; a ton of rubber, 600,000.

"We've got to work harder in applying the soundest of scientific methods and practices to those resource areas upon which we depend," he concluded.

What are Some Dangers? . . .

International Paper's Frank J. Coogan, asst. to IP's divisional civil engineer at Mobile, carried the ball further, hitting on some real dangers but adding a note of optimism. He cited the case of a river in New Jersey on which the water problem became so acute that the state actually closed a portion of it to further mill or plant expansion. He reminded those present that the industrial growth of the Northeast was virtually hamstrung by the absence of good water supplies.

Miles: Warning About Water

Immediately following World War II, heavy water-using industries like chemicals, metals, textiles and petroleum began to swarm to the Gulf Coast areas. But the boom from Beaumont to Corpus Christi soon lost its steam when the water supply lessened.

Mr. Coogan optimistically pointed, however, to the Mississippi River area from Baton Rouge down to New Orleans, scene of fairly recent industrial expansion. Here, thanks to the alert Louisiana Water Commission, which is charged with the responsibility of maintaining a good water supply, industry has been able to grow and prosper, he said. Because this water is suitable for almost every type of industrial use, he said, the companies in this area rely on the commission and on their own discretion to maintain the quality of water.

His point was as clear as fresh water: Industry requires good water but good water requires good management.

CARING FOR THE
Seedlings
KEEP SEEDLINGS MOIST DURING STORAGE
PREVENT FREEZING
STORE IN COOL SHADY PLACE
Planting the trees
CARRY SEEDLINGS IN BUCKET FILLED WITH WET MOSS OR WET MUD
DO NOT CARRY SEEDLINGS WITH ROOTS EXPOSED TO SUN AND WIND
After Planting
PROTECT YOUR TREES FROM LIVESTOCK
PROTECT YOUR TREES FROM FIRE
FIREBREAK
FENCE

"How To Do It" for Forestry Managers . . .

This display at Forest Farmers Meeting captured interest. Forestry managers felt it would make a good display at points where seedlings are distributed.

Major Expansion By Link-Belt Speeder Corp.

A major expansion to increase by 40% production of power cranes and shovels at its Cedar Rapids, Iowa plant is announced by David W. Lehti, pres., Link-Belt Speeder Corp., subsidiary of Link-Belt Co. "The new structure provides increased facilities for assembly, machine shop and other operations," Mr. Lehti said.

To Protect Wildlife in Texas

East Texas Pulp and Paper Co., Evadale, Tex., has started out its third year by taking a step that is popular with the community. It has leased 40,000 acres of land without charge to tthe East Texas Wildlife Conservation Assn. This new association was formed to protect wildlife and provide suitable areas for hunting and fishing.

Report New Logging Methods in Canada

● How increasing mechanization has helped Eastern Canadian mills meet critical labor shortages and continuing pulp and paper demand was explained to the Woodlands Section, CPPA, in Montreal, in late March, by O. G. Larsson, Abitibi Power & Paper Co.

Mr. Larsson, whose paper was prepared jointly with J. E. Tait of Abitibi, said logging in the Iroquois Falls area of Ontario in the past ten years has been converted from a combination horse and sleigh–tractor and rail hauling system, in which the crop was handled at least twice, to a trucking operation in which logs are loaded and unloaded mechanically.

This has eliminated some seasonal fluctuations in the operation, leading to more stable employment. Trucking necessitated construction of miles of bush roads which opened up the area and permitted greater protection from fire, insects and disease.

Increasing use of hardwood species was noted by L. LeBlanc, Canadian International Paper Co., who described a flotation study conducted at Lake Temiskaming to determine a method of dealing with the problem of "sinkers." He said a new method of bundling had been developed so that the hardwood logs could be towed by tugboats to the mill as in the case of softwood.

Chemical Treatment Results . . .

D. V. Myles and B. E. Jarvis, Howard Smith Paper Mills, Mattawa, Ont., described chemical treatment of standing trees to facilitate harvesting. The process, which permits pulpwood to season while still standing results in a steadier flow of wood to mills, and can reduce freight and fire costs.

Most effective weapon against spreading of fire in Eastern Canada lies in road-building, a panel on fire control agreed. E. S. Goodacre, Consolidated Paper Corp. said there is serious lack of a standard method of evaluating forest reproduction so that surveys could be related to show the total picture. Aerial spraying can control black flies, a menace to forest workers, Dr. A. S. West, Queen's University, Toronto, told the meeting. Flies have shut down some operations in Canada.

Need for research funds was stressed by Dean J. M. Gibson, Univ.

NEW CHAIRMAN of Woodlands Section, CPPA, is MAXWELL MacLAGGAN, divisional manager, Lakehead Woods Div., Abitibi Power & Paper Co. He started in industry in 1930 with New Brunswick International Paper Co.

of New Brunswick's school of forestry. Dean George Allen, Univ. of B.C., suggested additional staff to free research-minded men from routine.

The J. A. Bothwell award for outstanding forest conservation was presented to G. D. Morrison, Canadian International Paper Co., Grenville, Que. The Ellwood Wilson award for the most effective industrial application of research projects was won by D. V. Myles and B. E. Jarvis, Howard Smith Paper Mills. An award for the best paper on logging mechanization was won by J. R. Mackey, KVP Co. for a paper on the use of tractors.

Swedish Computor-Microscope for Gauging Tree Growth

An instrument for automatically determining the age and relative growth of trees has been developed by two Swedish forest research experts, Bo Eklund and Olof Langlet. At the recent annual meeting of the Academy of Agricultural Sciences, Stockholm, the two scientists received awards for their invention.

The machine, a combination of electric computor and microscope, not only counts concentric rings in the wood but measures their width from year to year. The increment cores are first taken out of the stem and then passed on to the instrument for determining relative influence on the growth of the forest of various grades of thinning and intermediate cutting. The information obtained–previously a very time-consuming procedure but now performed at the rate of 2,000 rings per hour–is important in making forecasts of forest resources. The Institute of Forest Research and the Committee for Assessment of the National Forest are using the new instrument. Many foreign orders have been received.

Hungarian Forest School In Exile is Doing Well

The forestry staff and student body of Sopron University in Hungary which were almost completely transplanted to British Columbia after the revolt of 1956 are doing well in their re-location at Powell River.

When it was learned that this body of foresters was anxious to leave their homeland and establish themselves on this continent, Powell River Co., which manufactures pulp, newsprint and lumber, offered to house them in a construction camp near the mill and to provide them with necessary facilities. About 25 professors and their families and 220 students, some accompanied by wives, are now at Powell River and all of them are eager to play an active part in forestry development in their adopted land.

Dean Kalman Roller, head of the faculty of this "exiled" school, says that the students are rapidly learning about West Coast species and methods of forest culture.

Montana Mill Chooses Barker

C. J. Warren, vice president in charge of operations for Intermountain Lumber Co., Missoula, Mont., reports that the firm has selected a Nicholson 42-in. mechanical ring barker to make chips for the new Waldorf Paper Products Corp. noodle pulp mill now being built near Missoula.

He said they had not yet decided what kind of chipper to use. Intermountain is among owners of about eight sawmills in the area which will convert byproducts to chips for the Waldorf mill.

One Agency for Reports

Pulpwood statistics from some 300 mills are now being reported to one industry agency, the American Pulpwood Assn. Previously, member companies had sent their reports to either the American Paper & Pulp Assn., or the National Paperboard Assn. The change is the result of questions raised by APPA and NPA leaders during the last half of 1956, followed by a study of pulpwood statistics reporting.

Euclid Tractor Plant

Construction of a new 650,000 sq. ft. manufacturing plant for Euclid Division of General Motors Corp. is under way in Hudson, O. Especially designed for the manufacture of crawler tractors, the plant is to be in operation by July 1958.

Operation "Rehab" – Seeding by Air

As part of a 10-year forest rehabilitation program for all Weyerhaeuser Timber Co. forest lands, three helicopters have recently completed seeding over 17,000 acres of logged-over land in about 75 hours flying time. Earlier, 14,500 acres of cutover land were seeded with seeds made chemically repellent to reduce rodent damage to natural seedfalls.

The program is the climax of years of experimentation to find the best method of getting land back into peak tree production as soon as possible after logging. It is specifically designed to return to production lands which do not adequately restock after trees have been harvested, and to reclaim old lands which have been unproductive because of repeated fires and brush encroachment.

At speeds of 45 to 60 mph, 150 ft. from the ground, one 'copter scatters more than 6 million seeds on a quarter section of ground (160 acres) in about 40 minutes. It showers about a pound of seeds on each acre, or about 43,000 Douglas fir seeds. Seeds are sown in a cross-flight pattern which requires flying the area twice, with the second flight at approximately right angles when rugged terrain permits. With this method an acre can be seeded in about 15 seconds.

At each side of the helicopter's bulbous eye is a 200-lb. seed tank, called a hopper. Just below each hopper is a power-driven metering device to control the rate of seed flow. Air tubes from the meter outlet lead to a slinger, which is driven from the engine shaft. The slinger rotates in flight, distributing seeds in a 90-ft. swath.

At a recent Truck Loggers meeting in Vancouver, B. C., N.A.C. Smilie, a British Columbia operator of helicopters, said that two makes of helicopters are important in industrial operations. Bell Aircraft puts out a helicopter for $45,000 which has a payload of 500 lbs. Mr. Smilie said that Sikorsky manufactures the most outstanding helicopters. The Model S55 Sikorsky, with a payload of 1,500 lbs., costs $160,000. A new model Sikorsky, S58, sells for $275,000 and has a payload of 3,000 lbs. A Sikorsky helicopter with 15,000 lb. payload is now awaiting certification.

One problem has been to prevent rodents and birds eating the seed. Forest researchers found that coating the seeds with chemical rodent repellents caused the mice to change their eating habits. Dusting with aluminum powder gave the seeds a grayish coloring unfamiliar to the eat-on-sight birds, so they left them alone, too.

Another problem has been eliminating brush growth which crowds out lumber-producing trees. Company research foresters, with other forestry and chemical organizations, developed chemical sprays that selectively killed the competing brush. Applied by helicopter, these sprays saved years of man-hours in brush eradication. In other areas, bulldozers swamp down the troublesome brush. The forked blades leave an exposed mineral soil where seeds find a better place to grow than nature provides.

Weyerhaeuser has hand-planted over 40,000 acres and may still have to plant some by hand, but seeding by helicopter is proving to be faster and more efficient.

Pulpwood Personals

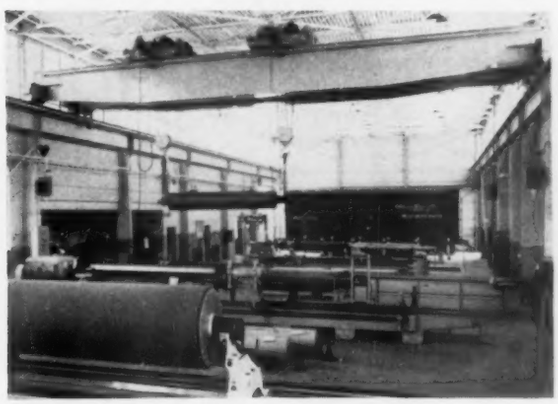
A. W. BLACKERBY, formerly of Kaniksu and Tongass national forests, succeeds **ALBERT N. COCHRELL** (retiring) as supervisor of Nezperce National forest, Grangeville, Ida. . . .

FLOYD IVERSON, asst. regional forester since 1955 in Intermountain Region, Forest Service at Ogden, Utah, is new regional forester there. He succeeds **CHESTER J. OLSEN** retiring after 37 yrs. with the Forest Service.

Congratulations due **ROBERT M. NONNEMACHER,** International Paper's district wood procurement supt. at Canton, Miss., for his appointment as a member of the Mississippi Board of Water Commissioners . . . to **WALTER J. DAMTOFT,** of Champion Paper & Fibre Co., Canton, N.C., who received the North Carolina Forestry Assn. Forester's Achievement Award for 1956 "in recognition and appreciation for your outstanding contribution to the development of forestry in North Carolina" . . . to **DR. A. D. FOLWEILER,** Texas Forest Service, College Station, Tex., awarded a Certificate of Appreciation on behalf of the forest industry in Texas . . . and to **DR. W. A. CAMPBELL,** leader of the Athens-Macon Research Center, awarded certificate of merit for work in littleleaf and other forest tree diseases. . . .

TILDEN L. NORRIS has been named resident forester of St. Marys Kraft's Colin P. Kelly Forest . . . **HARRY V. DECKER, JR.,** recent graduate of New York State College of Forestry, **WALTER J. THOMPSON,** formerly with U. S. Forest Service, and **BILLY D. SCOTT,** Arkansas A&M graduate, have all joined the forestry staff of The Crossett Co. . . . **KIRK SUTLIVE,** public relations mgr. for Union Bag-Camp at Savannah, has been elected 1957 chairman of the national advisory committee of American Forest Products Industries, Inc. . . . **THEODORE W. EARLE** has been promoted to general woodlands mgr. of the Continental Can Co.'s Robert Gair Div. He is pres. of Gair Woodlands and v.p. of Southern Paperboard Corp. . . .

G. K. SEED has been appointed acting general logging supt., Dryden Paper Co., according to announcement of **NORMAN McMILLAN,** woods manager. **D. M. WILSON, WILLIAM TAYLOR MORISON** and **WILLIAM F. BEATTY** have been named divisional foresters. **R. S. M. BUNNEY** is chief forester and **J. H. GODDEN** logging engineer. . . .



Simplify Paper Roll Handling Problems with **EUCLID CRANES**

Paper Mill Cranes are a specialty of ours. We've helped build our reputation through close cooperation with production supervisors and engineers in the paper industry.

Shown here is a 30 ton, 5 motor, double box girder Euclid crane in operation at a large southern roll reconditioning plant.

It is floor controlled for convenient operation and incorporates two independently operated trolleys. We'll be glad to discuss your crane or hoist requirements with you.

for details write **THE EUCLID CRANE & HOIST CO.**
1363 CHARDON ROAD • CLEVELAND 17, OHIO

Your Best Angle on Sales to the Pulpwood Field

Exactly ten years ago, the monthly "Pulpwood Section" of PULP & PAPER was established as a regular department. The growing integration of interest in pulpwood production with the manufacture of pulp and paper stimulated this editorial development, and reader acceptance was immediate. Advertiser acceptance followed with the result today—ten years later—the most important suppliers of mechanized equipment and services in the pulpwood field are now regular advertisers in this section.

THE PULPWOOD ANNUAL

Another important result of this pioneering move was an invitation from the American Pulpwood Association to PULP & PAPER to initiate the publication of a "Pulpwood Annual" which was to be edited by the APA.

This July, the 5th such annual will be published, incorporating the latest and most complete information on pulpwood production and mechanization. It will be printed first as a part of the regular July issue of PULP & PAPER and then reprinted with its advertising for separate distribution by the American Pulpwood Association.

THE CIRCULATION STORY

All 8,000 paid subscribers to PULP & PAPER will receive the "Pulpwood Annual" as a part of the regular July issue. In addition, 3,000 copies of the separately reprinted Annual portion, with its advertising, will be distributed by the APA to its membership, pulpwood producers and other industry factors. So, if the pulpwood field does represent an important market to you, the following double-pronged promotion program is tuned precisely to your needs.

1. Advertise monthly in the Pulpwood Section of PULP & PAPER—a proven medium with a ten year sales success story to back it up.
2. Schedule your July issue advertising to run also in the "Pulpwood Annual" for 3,000 additional circulation—or a total of 11,000 for the combination.

ADVERTISING RATES

	No. of Insertions Per Year		
	13	7	1
Full Page	$250	$300	$350
Two-thirds Page	225	270	315
Island Half Page	200	240	280
Half Page	165	195	225
One-third Page	140	165	190
Quarter Page	100	120	140
One-sixth Page	75	90	105
One-eighth Page	60	75	90

Extra Rates for Pulpwood Annual

Full Page	$75
Two-thirds Page	60
Half Page	50
Less than Half	30
Color	30
Bleed	15

IMPORTANT REMINDER: Remember, the advertising closing date for the July issue is June 1—and also remember that PULP & PAPER is consistently preferred by advertisers for its largest paid circulation, distribution where it counts the most, and a progressive growth pattern that matches the industry's growth.

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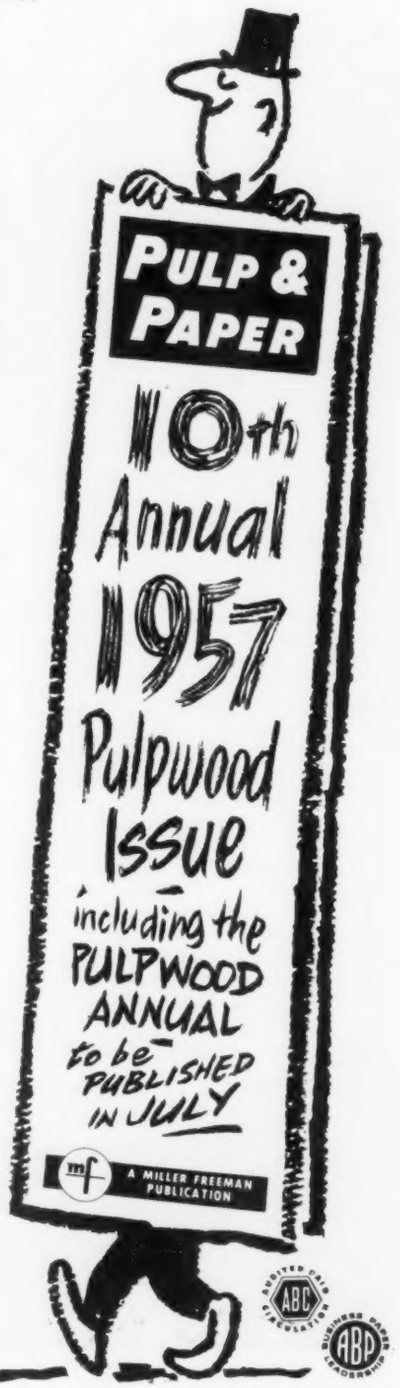
PULP & PAPER



10,000 cords of Maine pulpwood on the move...

with a LORAIN "107"

H. G. Haynes of Winn, Maine, knows the advantages of owning an 8-ton Lorain-107 rubber-tire crane. He is loading 10,000 cords of pulpwood at various locations between Kingman and Staceyville. His "107" is mounted on a "6x6" carrier and is equipped with a 30-ft. boom and wood grapple. In an 8-hour day, covering scattered locations, the "107" loads up to 125 cords.

With this fast-moving, agile log loader, Mr. Haynes knows he can go anywhere a truck can go—into the woods or rolling down the highway. The "107" includes many rugged "big-machine" features—in the design of the welded box-type turntable bed; heavy, adjustable hook rollers; oversize clutches and power take-off. Generous use of anti-friction bearings throughout the machine. Operation is easy and smooth, through 5 interchangeable, hydraulically operated clutches—plus more "big-machine" extras such as hydraulic boom hoist brake release, precision boom lowering device and a lighter, stronger, square-tubular-chord boom.

And you will be surprised at the bargain price for so much machine in the 7 or 8-ton class—when you ask your Thew-Lorain Distributor for the complete "107" story!

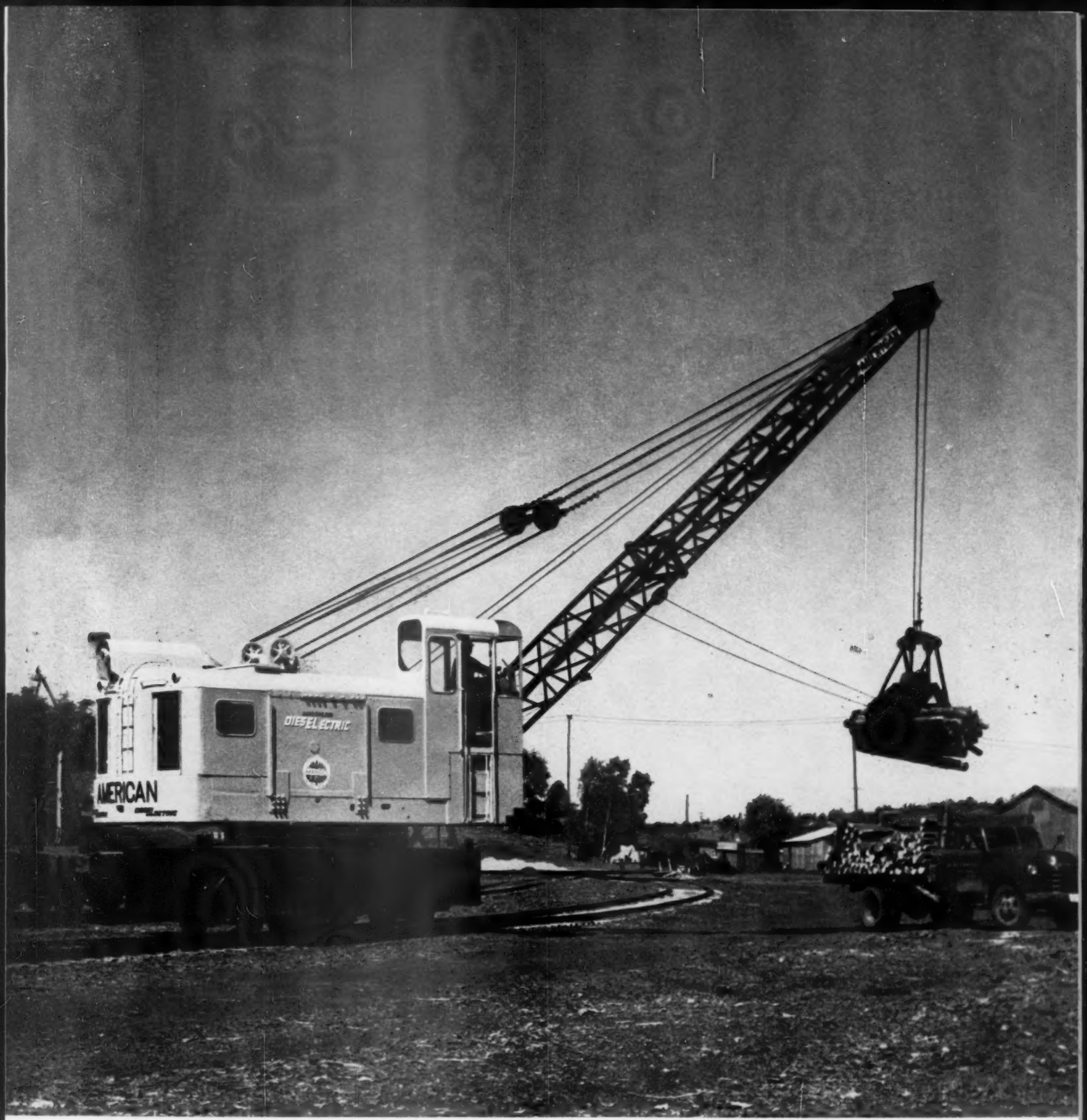
SEND FOR NEW LORAIN "107" CATALOG

Get your copy of new catalog showing details of construction, two carrier types available and other features for your profits.

THE THEW SHOVEL CO., Lorain, Ohio

investigate the "107" for your next job!

THEW LORAIN® "107"



MAINTENANCE COSTS REDUCED 50%

American's DiesELectric System Eliminates Over 50 Parts in Travel Mechanism

Three electric units in American DiesELectric Locomotive Cranes—a generator and two traction motors—replace scores of travel parts! American's patented DiesELectric* system delivers smooth, steady electric power to the driving wheels —economical, efficient diesel power to the machinery deck! Elimination of more than 50 travel parts—gears, shafts, clutches, bearings—cuts total upkeep cost as much as 50%! American DiesELectric cranes, designed from the rails up for this great power team, pay for themselves in a very few years!

Speed up pulpwood handling with American's trigger-fast air controls—cut operating expense with modern American DiesELectric Locomotive Cranes in capacities from 25 tons on up!

AMERICAN HOIST
and Derrick Company
St. Paul 7, Minnesota

*U. S. Patent No. 2083460

Strictly Personal

Far West Flashes

F. J. "BILL" HERB, pres. and gen. mgr., Pacific Coast Paper Mills, Washington, Inc., Bellingham, Wash., announces election of **ROBERT L. HAGIST** to the board. As sales mgr. he will continue to head Pacific Coast Paper Mills sales and marketing in Western states territory . . . **DANIEL E. BEASLEY,** chemist, Crown Zellerbach Corp., West Linn, Ore., was promoted to tech. asst. to paper mill supt. at West Linn . . .

DONALD G. FELTHOUS, plant engineer, Weyerhaeuser Longview Pulp Div., presented a paper on converting calcium base sulfite mill to magnesia base at 8th annual Pacific Northwest Industrial Waste Conference April 4-5 at Pullman, Wash. . . . **JAMES S. BUSHING,** asst. plant engineer, Weyerhaeuser Pulp Div. at Longview, spent first half of April vacationing in Hawaii . . .

LENNIE GROTH is new purchasing agent at Weyerhaeuser Timber Co's. Springfield, Ore. operations succeeding **C. L. McPHAIL,** retiring after 36 years with firm . . . **ROLAND SUNDSTROM** transfers from CZ San Francisco headquarters to Camas as technical asst. to paper mill supt.-tissue . . . **RICK BILLINGS** promoted from Weyerhaeuser Timber Co. Tacoma office to public relations director at the organization's Grays Harbor operations . . .

H. L. (HY) HAMMER, mgr., quality services, Fibreboard Paper Products Corp., was appointed to the U. S. government industry advisory committee on fiberboard containers. The committee will advise the Food and Container Institute for the Armed Forces Research and Development Command in Chicago . . .

JACK W. WILLIAMS named division gen. mgr. of Container Corp. of American folding carton plants at Los Angeles, Santa Clara, Calif., and Seattle, Wash. He continues as gen. mgr. of the firm's Boyle Ave. folding carton plant, Los Angeles . . . **WILLIAM H. RICHARDS** is new division gen. mgr. of Container Corp. paperboard mills at Los Angeles, Santa Clara, Calif., and Tacoma, Wash. He is still gen. mgr. of the new mill being erected at Santa Clara . . .

A. J. HAUSCHILD, asst. res. manager, Western-Waxide Los Angeles plant, promoted to resident manager, relieving **H. W. HUNTSMAN,** who has taken leave of absence . . . **H. KENT HOLMAN,** former asst. attorney general attached to Oregon state tax commission, leaves Portland law firm to join legal staff of Georgia-Pacific Corp. headquarters office . . .

Key Man Addition at K-C Fullerton Mill

Recent new "key man" on Manager James A. Murphy's staff at Kimberly-Clark's paper and converting (Kleenex-Delsey) mill at Fullerton, Calif., is Marvin Gade, who was instrument automation engineering in the chemical engineering laboratory in Neenah, Wis.

Mr. Murphy came to Fullerton as project manager when the plant was still in the blueprint stage and now heads its operations. Born in Appleton, Wis., he is a third-generation scion of a papermaking family. He joined Kimberly-Clark at Niagara Falls, N.Y. in 1937, was director of development and administration in the research and development department of K-C, Neenah, for about six years before coming to California. During World War II he was an officer aboard Navy attack troop transports.

Mr. Gade is now chemical engineer at K-C Fullerton. He is a specialist in instrumentation, past director of the paper industry division, Instrument Society of America, past chairman of the instrumentation committee, TAPPI. An alumnus of St. Olaf's College, Northfield, Minn., the U.S. Naval Academy at Annapolis and Univ. of Iowa, he holds a b.s. in chemical engineering and mechanical engineering. He joined Kimberly-Clark at Neenah and came to Fullerton in Nov. 1956 from the research and development department.

In News of Far West

CORNELIUS R. DUFFIE (left), former chief engr. of Penn Salt Mfg. Co., Portland, becomes manager of Western Kraft Corp., Albany, Ore. succeeding R. V. HANSBERGER who resigned to become pres. of Boise Payette Lumber Co.
GORDON S. J. ("GARY") BOWELL (right), new vice pres., pulp and paper, for MacMillan & Bloedel, succeeds CLIFFORD CRISPIN who has assumed other executive duties in the company. Mr. Bowell will direct MacMillan & Bloedel's $70,000,000 expansion program, mostly at Port Alberni, B.C.

J. Calvin (Cal) Young, industrial relations supervisor, is a "one-man personnel department," handling all phases including procurement, safety, union relations, contract interpretation, personnel handling, etc. His sphere includes the medical facility, a point of pride with the Fullerton plant. Mr. Young's connection with Kimberly-Clark dates from 1936.

Midwest Medley

ROBERT J. KITCHEN is new assistant to paper mill supt. **E. J. WALK** at Scott Paper Co.'s Marinette, Wis. plant.

Conference at Kimberly-Clark's new Fullerton Mill

MARVIN GADE (left), as chemical engineer, is a recent "key man" addition to Kimberly-Clark's staff at Fullerton, Calif., paper and converting mill. He confers with JAMES A MURPHY (middle), mill manager, and J. CALVIN YOUNG (right), industrial relations supervisor. Mr. Gade, from the Research and Development Division, Neenah, Wis., co-authored paper at last fall's Engineering Conference on automatic startup of machines at Kapuskasing, Ont., newsprint mill.

Strictly Personal

Mr. Kitchen will assume the top paper mill post when Mr. Walk retires at the end of this year . . . A new addition has been welcomed to the family of **DICK AHRENS** of Impco in Appleton. The Ahrens now have two little ones, besides two older children . . .

RALPH E. ECKERSTROM succeeds **HERBERT BAYER** as director of dept. of design, Container Corp. of America, according to **WALTER P. PAEPCKE**, chairman. Mr. Bayer becomes chairman of the department. Mr. Eckerstrom was art director and assoc. professor at the U. of Illinois and is author of ***Contemporary Book Design.*** . . . Noble & Wood Machine Co.'s publication, ***The Agitator*** chose **D. J. GOODMAN**, gen. supt., Sorg Paper Co., as papermaker of the month in March. Mr. Goodman has been with Sorg since graduating from Purdue U. in 1938. He had good training under **RALPH B. ROE**, who was decorated by the Swedish government for his work in bleaching pulp . . .

If his 65th birthday came in April instead of February, **ROMAN SCHMID** of the paper and newspring laboratory staff at Research and Development Center, Neenah, Wis., would have completed a full 39 years with Kimberly-Clark on retirement . . .

ISAAC W. CARPENTER, JR. was elected chairman of the board, Carpenter Paper Co., Omaha, Neb. He is on leave of absence, serving as Asst. Secretary of State in Washington, D.C. . . . Two Gardner directors will be added to the board of merged Diamond Match and Gardner Board & Carton Co., if stockholders approve. They would join **E. T. GARDNER**, board chairman of Gardner. In addition, **E. T. GARDNER, JR.**, now Gardner exec. vice pres., and **COLIN GARDNER III**, vice pres. and gen. mgr., would take executive positions at Diamond headquarters in New York City . . .

JOHN C. BOYNTON is now development engineer for Fasson Products div., Avery Paper Co., Painesville, O. . . . **FRED HERBOLZHEIMER, JR.**, formerly of Marinette Paper Co., is production services supt. of Thilmany Pulp & Paper Co., Kaukauna, Wis. . . . **GEORGE LAMBE** has left the U. S. Armed Forces to become chemist for Gardner Board & Carton Co., Middletown, O. . . . **NEIL K. PLANTEFABER**, formerly of R. T. Vanderbilt Co., is now with Kalamazoo Container Co., Kalamazoo, Mich. . . . **CARL E. SCHMITZ** was made exec. vice pres. of Crane Packing Co., Morton Grove, Ill. . . . **ROSS C. WILCOX** is new mgr. of central process engineering for Marathon Corp., Rothschild, Wis. . . . **CLYDE D. WOODBURN, JR.**, Corn Products Refining Co., was transferred

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In Industry News

ROY A. GARNETT (left) becomes vice pres. and gen. mgr. of Whiting Corp. (Canada) Ltd., Toronto, succeeding A. RITCHIE who retired as managing director, Pres. J. A. HANDLEY announces. Mr. Garnett joined Whiting shortly after graduating from Tri-State College in 1938. He is responsible for Whiting Corp. (Canada) Ltd. and its subsidiary, The Volta Mfg. Co., Ltd.

The promotion of WARREN W. JOHNSTON (middle) to mgr., systems div., Panellit Service Corp. is announced by NEIL M. BLAIR, vice pres. and gen. mgr. Mr. Johnston graduated from U. of Illinois in 1948. He will supervise expansion of facilities and customer services.

JAMES W. TAYLOR (right) takes over as mgr. of Bailey Meter Co.'s Milwaukee district. Mr. Taylor, formerly acting mgr., graduated from Penn State in 1950, has been with Bailey since 1953.

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DR. J. O. BURTON announces the promotion of **WILLIAM B. COOK** from coating supt. at Minnesota and Ontario Paper Co.'s specialty paper mill in International Falls, Minn., to supervisor of paper research at the research laboratory. He will work under **DR. WILLIAM H. McPHERSON,** research laboratory mgr. Mr. Cook graduated from Iowa State in 1946, has been with Mando since 1954. He is married and has three daughters, one, three and five years old. . . . Politics and papermaking mix very well for **WILLIAM BECKETT,** exec. vice pres. of Beckett Paper Co. in Hamilton, O. He is state senator of the Ohio 2nd, 4th district and previously served two terms as mayor of Hamilton and six consecutive terms as city councilman . . .

FRED BOYCE, whose father was a founder of the Supts. Assn., has been in paper sales business for 35 years at Wauwautosa, Wis., where he is president of Wisconsin Paper & Products Co., as distributors for Mead, Northwest Paper, Scott, Gilbert and others. Many supts. know his mother, now 89, who lives in Wauwautosa with a daughter . . .

C. M. GREEN was promoted to gen. mgr. of Mosinee Paper Mills Co. of Mosinee, Wis., where he has been plant mgr. for the past 18 years. **JOHN A. McPHERSON,** asst. plant mgr. since 1947, is new plant mgr., announced **N. S. STONE,** vice pres. and former gen. mgr. Mr. Stone will continue actively as vice pres.

PRES. PAUL V. SANGREN, DR. AL NADELMAN of the paper tech. dept., and others on campus are very pleased that Western Michigan College is now officially Western Michigan University, by act of legislature. It started 53 years ago as normal school . . . **RAYMOND JANES,** graduate in 1953, with m.s. from Institute of Paper Chemistry, joined faculty as asst. prof. in paper technology. Recently was with Potlatch Forests . . .

LLOYD LANG, formerly with Kimberly-Clark, Crossett and other companies in a long career as a development engineer in the pulp and paper industry, is project engineer in charge of a recently created Pulp and Paper Division in the engineering firm of Sumner Sollitt Co., 307 No. Michigan Ave., Chicago 1, Ill.

BILL MONSON, of Hooker Electrochemical Co., Niagara Falls, N. Y., and **MILT BAILEY,** vice pres., Bulkley Dunton Pulp Co., Kalamazoo, lived in the same house while both were students at the U. of Illinois. Bill was a senior, Milt a sophomore, so you can guess what Milt's fate was . . .

Another pair who lived in same house in college: **FRANK D. LIBBY,** corporate pulp and paper consultant, KVP Co., and Prof. **CLARENCE E. LIBBY,** head of pulp and paper curriculum, North Carolina State College, and a recent visitor in Kalamazoo. No—they are not related. They both graduated from U. of Maine . . .

MAYNARD M. BARTLEY, mgr., Rappinwax Paper Co.'s Chicago plant, is new chairman of the industrial relations committee of the Waxed Paper Institute. Vice chairman is **DONALD HAWLEY,** KVP Co. . . . Changes at Rhinelander Paper Co.: **PAUL MICHELS,** promoted from project engineer to field engineer. He replaces **ROBERT FITZE,** now plant engineer at Owens-Illinois (National Container) plant in Tomahawk, Wis. **HUGH OLSON** joined Ripco as converting plant engineer. **BEN STRONG,** formerly project chemist, is now chief control chemist at the converting plant laboratory . . .

JOHN T. WALMSLEY, whose appointment as new Midwest regional manager for Hooker Electrochemical Co., was previously announced, has moved

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into his new home at 423 Madison, La Grange, western suburb of Chicago. Hooker's Midwest offices are at 1 North La Salle, Chicago. . . .

Southern Sidelights

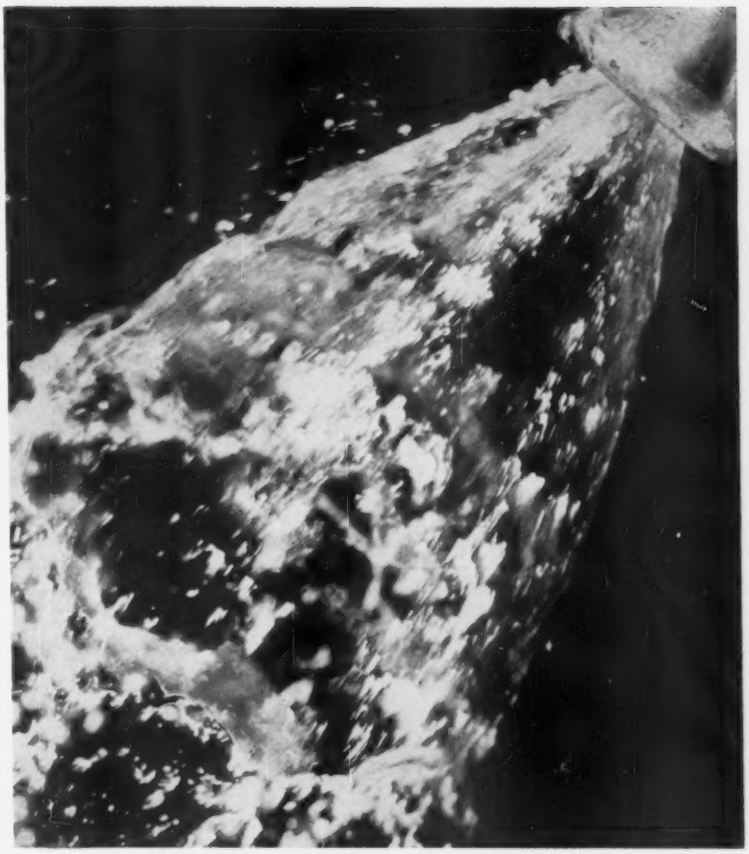
The Southern Exposure: Major change at Southern Paperboard Corp. **CHARLES M. McCARTHY,** vice pres. and plant mgr., has been promoted to gen. mgr. of mfg. for Continental Can's operations at Pt. Wentworth, Ga., Hopewell, Va., and Hodge, La. **CLAUDE ADAMS,** gen. supt. at Southern Paperboard, has been promoted to plant mgr. Other promotions at Pt. Wentworth: **BRUCE ELLEN,** from pulp and power supt. to general supt.; **JACK LUCKY,** from asst. pulp supt. to pulp mill supt.; **FRANK SCHWARZ, JR.,** asst. power plant supt. to power supt.; **CLAUDE E. FELTON,** traffic mgr., to asst. administrative mgr. Congratulations due all along the line.

Brunswick Pulp & Paper's president, **ED GAYNER** provided the quote of the month during a recent meeting there. Said Ed, in explaining why Southerners by adoption were just as good "Rebels" as native sons: "I'm here because I want to be. The native didn't have anything to do with his being in the South. I was born in New Jersey and I certainly didn't have anything to do with that. It just so happened that my mother was there at the time and I wanted to be with her . . ."

Crossett Paper Co. celebrated its 20th anniversary. It began production Mar. 17 (St. Pat's Day, no less) 1937. Daily production then was 150 tons. Today: 550.

Congratulations due two of Crossett's staff: **KENNETH CHESLEY,** dir. of research, who was elected a member of the executive committee of TAPPI and **J. W. TAYLOR,** who represents Crossett Paper Mills in the northeast, was named "Crossett salesman of the year" for the second time.

VERNON B. BODENHEIMER, formerly a representative for Stebbins Engr. & Mfg. Co. in the South and once a member of the staff at Riegel Carolina, has joined the engineering staff of Robert Gair Div. of Continental Can Co. at Greenville, S. C. . . . **JOHN MICHAUD** has been named a vice pres. of Continental Can's newly-formed containerboard and kraft paper div. Mr. Michaud, formerly in charge of Southern Advance Bag & Paper plant at Hodge, La., will have responsibilities over Continental's mills at Hopewell, Va., Pt. Wentworth and the Gair Woodlands Corp. as well as the Hodge mill. . . **C. G. McGEHEE,** former president of Calcasieu Paper Co., Inc., Elizabeth, La., is now chairman of the board. Presidency goes to **TILIMAN CALVERT, JR.,** onetime vice pres. Both men have served Calcasieu since 1946, when it was acquired by Jacksonville



To show fluid volume, photographer Bernard Hoffman uses the free discharge of water from an ordinary garden hose.

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Paper Co. Since then, Calcasieu expanded from one machine, 40 tons a day, to three machines, 240 tons a day.

SPCA "Unit" reports two funniest "casualty" stories of the year. In Knoxville, Tenn., **GILDEN GIBSON** reached for a cigaret, accidentally stuck a 2-in. firecracker in his mouth, lit it, announced from the hospital he was going to quit smoking. In Las Vegas, farmer **PAUL THOMAS** shoved a lighted concussion bomb down a gopher hole to get rid of the pest, was flabbergasted when the gopher pushed it back out, threw it frantically away from him. Farmer watched helplessly when it went off, blew down half his barn, burned 12 tons of hay.

University of Florida has added **MICHAEL SHAFFER,** formerly with Babcock & Wilcox research center, to its pulp and paper lab staff . . . **DEAN M. DUNWOOD** of Roanoke, Va., native of Georgia and salesman for Monsanto Chemicals inorganic chemicals division for many years, retired Apr. 1. . . . **J. A. O'BRIEN, JR.,** Notre Dame graduate, has been appointed mgr. of the new Atlanta office of Pacific Valves, Inc., located at 3175 Maple Dr., N.E. . . .

Two new additions to the staff at Gulf States' Demopolis mill, which is now shaping up with **HENRY HALSELL,** resident mgr., and **KARL GUEST,** operations mgr.: **JAMES M. TUCKER,** Demopolis engineer, formerly with Buckeye Cellulose in Greenville, S. C., and Foley, Fla., and in quality control work for Union Bag, Brunswick Pulp & Paper and St. Mary's Kraft.; **MAHLON B. GRAHAM,** power supt., formerly with International Paper Co. at its Mobile, Panama City and Moss Point mills and more recently power supt. at North Carolina Pulp Company, Plymouth.

JOHN A. SHALER, paper mill div. supt. at Scott Paper Co.'s Chester mill, is now paper mill supt. of the firm's new tissue mill at Mobile, Ala. Mr. Shaler has been with Scott since 1925 as third hand, machine tender and div. shift mgr. He will go to Mobile before the planned paper machine start-up in July to assist in planning and training personnel for the new mill . . .

Promotions at East Texas Pulp and Paper, announced by **PRES. R. M. (MIKE) BUCKLEY: JOHN S. HARTMAN,** who came to Eastex in 1953 from **KVP,** from plant engineer to chief en-

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gineer; **ROBERT L. PARET,** to plant engineer in charge of maintenance and service; **JAMES G. LEE,** to mechanical maintenance supervisor, continuing temporarily in charge of power; **HARRY H. BONIFAY,** to master mechanic; **WILLIAM A. MOGGIO,** chief chemist, to charge of a new effluent program, with **HENRY C. BRADY, JR.,** acting as chief chemist during this period . . .

Changes in South and West

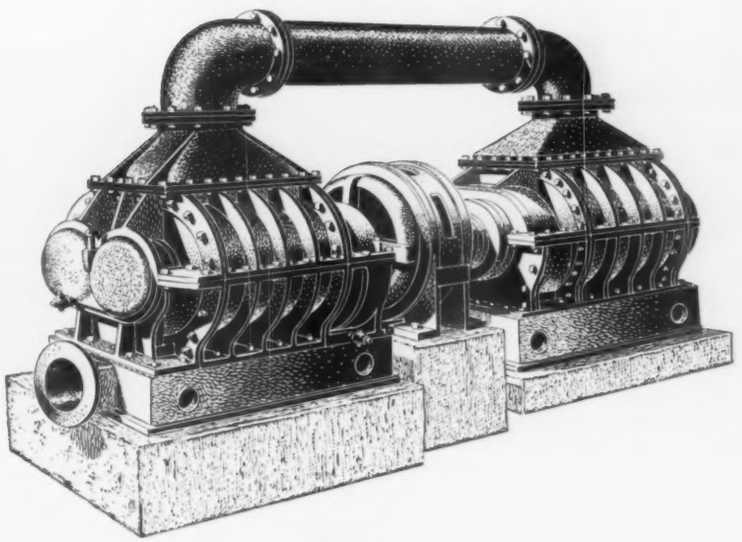
BART D. WILLIAMS (left) was made mgr. of Birmingham Erection district, Chicago Bridge & Iron Co. Mr. Bart, a native of Oklahoma, has been asst. erection mgr. in Birmingham since 1947. He took his b.s. in civil engineering at U. of Illinois in 1938.

ROBERT M. PHELPS (right) is new mgr. of Pacific Coast Erection district for Chicago Bridge & Iron, in Torrance, Calif. Mr. Phelps was born in Oregon and graduated in 1943 from Oregon State College with a b.s. in civil engineering. Prior to joining Chicago Erection district in 1945, he was a Lieut. (jg) in the U.S. Navy.

Northeast Notes

A new home at Evans Mill, near Watertown, N.Y., has been built by **TED DETCHER,** exec. v.p. of Chemical Linings, and in good time, too. The Detchers, who have three boys and a girl, are expecting No. 5 . . . Ebasco Services Inc. appointed **HOWARD D. KRAFT** as commercial sales consultant in the company's sales and public relations consulting dept. An engineering grad. of the U. of Minnesota, Mr. Kraft was formerly with the Middle West Service Co. in Chicago . . . Directors of The Flintkote Co. elected **I. J. HARVEY, JR.,** chairman and chief executive officer and **PERCE C. ROWE** president and chief administrative officer. Mr. Harvey previously was president and Mr. Rowe vice president . . . **WALTER A. PEEK** assumes management and sales responsibility as the St. Lawrence Paper Corp., Norfolk, N.Y., plans to upgrade products at a cost of over $100,000, while continuing to make newsprint. McGill U. engineering grad., **FREDERICK E. MACY,** veteran industry consultant, succeeds **VERNON L. TIPKA** as resident manager at Norfolk . . .

GEORGE OLMSTED, JR., president, S. D. Warren Co., is the 1957 president of Boston Paper Trade Assn. . . . New



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members of this association are **O. H. "DUTCH" MESSECAR,** Fraser Paper, Ltd; **R. H. DECKER,** Gilbert Paper Co.; **W. R. HARDEN,** Crane & Co., and **LAURENCE E. GRAHAM,** International Paper Co. . . . Mr. Olmsted is still receiving plaudits for well-done, down-to-earth annual report. He writes this report from a study in his home in New Hampshire which overlooks inspiring New England scenery . . .

CHARLES M. CARRIER, vice president and manager of mfg. for Great Northern Paper Co., has retired. **J. H. "PETE" HEUER** succeeds him as manager of mfg., writes President **M. C. McDONALD.** Mr. Carrier had been with Great Northern 40 years . . . **RALPH H. CUTTING** succeeds the late **WALLACE E. PARSONS** as president of Keyes Fibre Co. Three new v.p's. elected: **H. DOUGLAS ARCHIBALD,** sales; **GUSTAVE R. JOHNSON,** mfg; **WALTER H. RANDALL,** engineering and research. **DWIGHT F. BRIGHAM** was re-elected chairman and **ALBERT T. ARMITAGE,** chairman of the exec. committee. **JOHN W. THOMAS,** company treasurer, becomes a director. Mr. Cutting has been with Keyes since 1928 . . .

News from Rice Barton

PHILIP A. PETERSON (left) is sales engineer i/c Northern New England. A Yale (1944) graduate, he has also been with Oxford Paper Co. and General Dyestuff Corp., joined Rice Barton in 1952, working in sales and engineering functions in its paper coating machinery division.

JOHN C. HARPER, JR. (right), a 20-year veteran in paper, is a Lafayette College graduate, is also secretary of TAPPI's mechanical and structural engineering committee. He will work on special products for Rice Barton Corp.

CHARLES F. TYLER, personnel director of the Bucksport, Me., mill, St. Regis Paper Co., recently returned from a honeymoon at Miami Beach. Bride is the former Miss Dorothy Cushing, employed in St. Regis' Bucksport office . . . **ROBERT R. ACKLEY** is new sales mgr., Westfield River Paper Co. He was v.p. i/c sales of Quaker Chemical Products Corp., has a chemist degree from U. of Pittsburgh . . .

JOHN S. WALDEN is new sales representative for Stora Kopparberg Corp. Headquartering in New York, he will travel throughout the Eastern and Lake States areas. He formerly worked with Standard Paper Mfg. Co. and Manchester Board & Paper Co. . . . **E. W. "TED" TINKER,** retiring exec sec. of APPA, and **BOB O'CONNOR,** exec secy-elect, were recently presented with awards as "Master Papermakers" by Beloit Iron Works . . . **WILLIAM T. REHLING** is now district mgr., commercial printing paper sales, West Virginia Pulp and Paper Co. . . .

ROBERT L. MARCALUS, vice pres. and general mgr., Marcalus Mfg. Co. Inc., is the proud father of a boy. . . . **LAWRENCE W. STRATTNER,** vice president, West Virginia Pulp and Paper Co., retired after 41 years of management service with the company. . . . **GERARD CHAPMAN,** formerly of the Columbia Box Board Mills, Inc. is now paper technologist for Peter J. Schweitzer, Inc., Lee, Mass. . . . **CLYDE DAVIS JR.** is now manager, scheduling and specifications for Finch, Pruyn & Co., Glens Falls, N.Y. . . .

CHARLES F. HONEYWELL, recently administrator of Business and Defense

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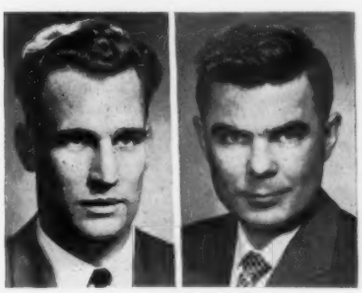
Services Administration, is now secretary of the Newsprint Service Bureau. . . . **JOHN ZIMA** continues as treasurer. . . .

Canadian Column

OTIS D. HALLIN, vice president, Crown Zellerbach Canada, Vancouver, B.C., in charge of timber operations, has gone to San Francisco as assistant vice president, timber, for Crown Zellerbach Corp. **HUGH J. HODGINS,** manager, timber dept., CZ Canada, will assume Mr. Hallin's duties there . . . **NORMAN ENGLISH,** general manager, Powell River Co. logging operations, retired April 1, although he will continue on special assignments until the end of the year. **CLAIR C. SMITH,** assistant manager, logging, succeeds Mr. English.

GEORGE W. LEGG, who designed brown stock washing systems and completed development work in mills in the Philippines, India and Europe, has been appointed associate chemical engineer in the chemical pulping division, Pulp & Paper Research Institute of Canada. . . .

H. K. JOYCE, personnel mgr. for Mersey Paper Co., Liverpool, N.S., was elected chairman of the Industrial Relations Section, Canadian Pulp and Paper Assn. Vice chairman is **G. HOWARD SMITH,** gen. mgr. of Don Valley Paper Co., Toronto. Mr. Joyce succeeds **R. H. HEDGER,** E. B. Eddy Co., Hull, Que., who continues on the exec. committee. **JOHN WINDEBANK,** mgr. of industrial relations for Ontario-Minnesota Paper Co., Fort Frances, Ont., was added to the committee. . . . **LEO C. KELLEY,** gen. supt. for B. C. Pulp & Paper Mills before the company was taken over by Alaska Pine & Cellulose, died suddenly in mid-March at Hope, B.C. Mr. Kelley directed both Port Alice and Woodfibre mills. He was former supt. at Fraser Co. mills in New Brunswick, where he was born. In recent years he was a consultant with Sandwell & Co. . . .



New Posts in Canada

JOHN W. DOBBIE (left) and C. NEWTON HOPKINS (right) have joined the staff of Hooker Chemicals Ltd., North Vancouver, B.C., as tech. supervisor and chem. engineer, respectively, according to Robert E. Noble, works mgr. Both are graduates of Univ. of British Columbia.

Continuous Starch Cooker

AUTOMATIC CONTROL OF { **CONCENTRATION** / **TEMPERATURE** / **FLOW RATE**

SAVES SPACE—Uses a floor area only 7x4 feet—much less than needed for batch-type tanks.

SAVES MATERIAL—Prevents waste or spoilage by delivering fresh starch slurry at a rate set by paper mill speed. Temperature variations and non-uniform mixture due to long storage are eliminated by presetting automatic controls.

WIDE RANGE OF USES—For furnish or beater sizing, tub and calender sizing and for coating colors.

ONE UNIT COOKS, HEATS, COOLS AND STORES—With all tanks, controls, meters and indicator lights in one piece of equipment, the Pratt Starch Cooker is easy to install. Connection to air, steam, water, and slurry lines is all that is required.

CAPACITY—Handles concentrations from 7% for unmodified starch, to 40% for modified starch, and delivers up to 48 gallons per minute.

Henry Pratt Company, 2222 So. Halsted St., Chicago 8, Ill.

☐ Please send me your detailed Bulletin 35.

☐ I would like your representative to call.

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COMPANY_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

PULP & PAPER

Strictly Personal

DR. A. M. AYROUD, of Grenoble, France, has been appointed chemical engineer on the research staff of the Pulp and Paper Research Institute of Canada. Of Syrian nationality, Dr. Ayroud went to France in 1946 attending Lille University and Ecole Francaise de Papeterie in Grenoble, where he won the university prize. His interests have been in straw pulping. . . . **IAN BARCLAY**, secretary, Columbia Cellulose Co. in Vancouver, B.C., has been named executive assistant to **T. N. BEAUPRE**, who recently succeeded **WENTWORTH BROWN** as executive vice president. Mr. Brown has joined W. R. Grace & Co.'s pulp division. . . .

JOHN GUTHRIE, for years manager for Alaska Pine & Cellulose at Port Alice, B.C., has resigned to become manager for Columbia Cellulose Co. at Prince Rupert, a post that has been vacant several months. . . . **WILLIAM A. DALE** has been appointed res. mgr. for Alaska Pine & Cellulose at Port Alice, according to **WILLIAM E. BREITENBACH**, executive vice pres. Mr. Dale is a graduate of Washington State College and served with the Royal Canadian Air Force in World War II. **JOSEPH W. FRASER** has been made assistant resident manager, a new position. . . .

G. S. J. BOWELL, general manager, western district operations, exclusive of pulp and paper, MacMillan & Bloedel, has been appointed vice president, pulp and paper, succeeding **CLIFFORD CRISPIN**, who will assume other duties. **C. W. E. LOCKE**, general manager, pulp and paper has resigned. . . .

The new Abitibi Corp., building a board mill in Alpena, Mich., announces the following appointments: **PAUL E. ROBERTS**, exec. vice pres.; **O. B. EUSTIS**, mill manager; **E. J. SCHULTZ**, general sales manager; **A. J. AUDEN**, woods manager, and **F. R. BOYNTON**, controller and assistant treasurer. Mr. Roberts is v.p. of the parent firm in Toronto. Mr. Eustis, native of Greenville, Miss., served from 1935 to 1953 with U.S. Gypsum Co. and from 1953 until 1957 with Oregon Fibre Products Inc., Pilot Rock, Ore., as plant manager. Mr. Schultz served 13 years with U.S. Gypsum and four years with Reynolds Metal Co.

HAROLD E. RAMBERG is new purchasing agent for Ontario-Minnesota Pulp and Paper Co., Ltd., Canadian subsidiary of the M & O Paper Co. He will be stationed at Kenora, Ont. . . .

New...Versatile... Economical...Fast!

For both strongly or slack sized papers

DIRECT YELLOW P-6G

"Paper Proved" by CIBA

Looking for a particularly pleasing greenish shade . . . one that will produce self colors ranging all the way from canary to primrose? Or do you need greens of good brilliance, especially those with a yellow tone? Then CIBA's Direct Yellow P-6G, with its exceptionally good fastness to alkali, is your answer:

Direct Yellow P-6G will not turn red, has good fastness to sodium hypochlorite and is dischargeable with a combination of chlorination and sodium hypochlorite bleaching agents. Stable over the normal pH range used in paper production, the light fastness of Direct Yellow P-6G is good.

CIBA's Direct Yellow P-6G is recommended for the fine light and medium shades it brings to converting tissues, bag papers and other converting papers as a self or a component color.

Technical information, samples, and color matching are part of the specialist service to the paper industry provided by CIBA.

PP-5

CIBA COMPANY INC.
Paper Chemicals Department
627 Greenwich Street, New York 14, N. Y.

Please send me full information on CIBA "Paper Proved" Direct Yellow P-6G

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____

In Northwest News

Appointment of WILLIAM S. FORMWALT (left) as asst. to the vice pres. is announced by Pres. FRED C. SHANAMAN, Pennsylvania Salt Mfg. Co. of Washington. A graduate of Hampden Sidney College, Mr. Formwalt taught science before serving as a major in artillery during World War II. He served in the chemical div. of the National Production Authority during the Korean War. He will be at Taylor Way, Tacoma, Wash.

HOWARD H. BULLOCK (right) has moved to Seattle as manager of User Industries Sales for Pacific Northwest Div. of General Electric's Apparatus Sales Div. He succeeds the late J. R. Murphy. Mr. Bullock, who joined GE after graduation from Utah with an e.e. degree in 1925, has a long record of service in the fields of military aviation, product testing, transformers and sales engineering.

Canada's Stake in Industry

"The pulp and paper industry alone is the largest industrial buyer of goods and services in Canada. No single industry in Canada pays more in salaries and wages or has a better labor-management record. It his been largely responsible for making Canada the second largest hydro-electric producer in the world. Its mills use a quarter of the total consumption of electricity in the country and a third of the power used by all industry. In a like manner, one out of every ten revenue freight cars loaded in Canada is loaded with pulp, paper or pulpwood."–**LOWELL BESLEY,** chairman, woodlands research department, Pulp & Paper Research Institute of Canada.

Swan Song Comments

"It will be healthy for us to get back to more normal competitive conditions, to flex our muscles a bit. Over the next 20 years, the only important limitation on production of pulp and paper and paperboard will be raw material–who owns it."
–**TED TINKER,** retired exec. secy, APPA.

Future in Paper

"As many mills come into production to meet the amazing demands for paper and paper products, more felts than ever will be needed. Our future is there."–**RAYMOND J. LEE,** president, Lockport Felt Co.

To Prevent Lay-Offs

"Management, labor and the government should cooperate this year to prevent threatened mass lay-offs in British Columbia's forest industry. None of the three should get crazy ideas about profits, wages or income from stumpage charges. We can't pay the highest wages, the highest freight rates and the highest stumpage prices and be competitive in our traditional markets overseas."–**L. L. G. BENTLEY,** vice pres., Canadian Forest Products, Ltd., Vancouver, B.C.

Sign on Route 441 in South Georgia: "Drive carefully, the next hospital is 50 miles away."

CORROSION

TYPE	HOW TO IDENTIFY
GALVANIC	Localized deep grooves or pits, often at contact between dissimilar metals.
UNIFORM	Uniform attack—may be on only one part.
INTERGRANULAR	Attack at grain boundaries.
PITTING	Rapid, deep pitting at several small areas. May be uniform or highly localized.

Why you can conquer all four kinds of corrosion with Goulds chemical pumps

When you buy Goulds Fig. 3715 chemical pumps you can build *specific* protection against all four types of corrosion.

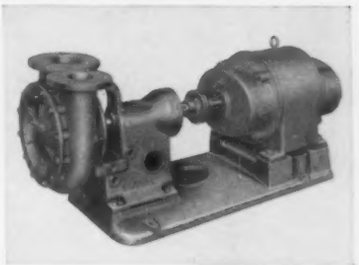
Match the pump metal to your liquids. You can have the *entire* fluid end of the pump made of 316 stainless, Gould-A-Loy 20, nickel aluminum bronze, iron, iron with stainless trim or nickel aluminum bronze trim. These metals from stock. Any machinable alloy on application.

All machined parts in all metals held to same close clearances permitting economical alloy changes in the field . . . the entire liquid end or any component as conditions warrant.

Choosing from this wide range of metals, you can combat the different corrosive actions of hot acids, alkalies, slurries, sizes, or whatever other corrosive liquids you pump.

Match pump size to job

You can get Goulds Fig. 3715 in 9 sizes: capacities to 720 GPM, heads to 200 ft. Other features of Fig. 3715: water-jacketed support head permits handling liquids at 350°F.; impeller clearance can be adjusted without dismantling the pump. For more information, write for Bulletin 725.4.



These larger pumps also fight corrosion

For larger capacities or heads, you can get these other Goulds pumps in metals that resist specific corrosion:

Fig. 3405—single stage, double suction; 19 sizes; capacity to 6400 GPM, head to 425 ft. Bulletin 721.6. Popular sizes available in 316 stainless steel from stock.

Fig. 3305—two stage, opposed impellers; 8 sizes; capacity to 1200 GPM, head to 1000 ft. Bulletin 722.6.

Fig. 3189—single stage, open impeller; 11 sizes; capacity to 1080 GPM, head to 180 ft. Bulletin 720.4.

Goulds PUMPS INC. Seneca Falls New York

Branches: Atlanta • Boston Chicago • Houston New York • Philadelphia Pittsburgh • Tulsa

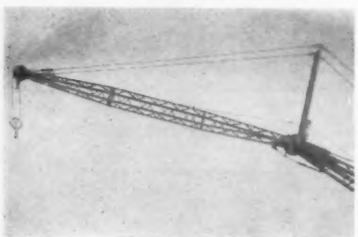
West Coast Representative: Goulds Pumps Western, Portland, Ore.

In Canada: The A. R. Williams Machinery Co., Ltd. in all principal cities.

PULP & PAPER

NEW EQUIPMENT and SUPPLIES

New Jibs Double Capacity



Link-Belt Speeder Corp., Cedar Rapids, Ia., has unveiled three new high-capacity jibs, 20, 30 and 40-ft. in length, with 6, 5 and 4-ton maximum capacities, respectively. These jibs are for use on their 88, 98 and 108 Series crawler and rubber-tired shovel-cranes. According to Link-Belt, the jibs offer greater capacity than any comparable units now available, double the capacity of previous Link-Belt Speeder jibs. They are fabricated from a high-strength alloy steel. The new jib boom is a two-piece, 20-ft., all-welded, box lattice unit that can be extended to 30 or 40 feet by the addition of one or two 10-ft. extensions. Write Link-Belt for more information.

New Valve Actuators

A complete line of all-metal actuators for control valves has been developed by Robertshaw-Fulton Controls Co. for use under conditions of atomic radiation, high temperatures and corrosion. Designed for both pneumatic and hydraulic control systems, they are available with suitable valves as complete control units, or as additions to existing valve installations. Some are designed to function either "air to open" or "air to close" and are easily reversible in the field.

For use in highly corrosive atmospheres, one model has stainless bellows and stem and frame of cadmium-plated cold rolled steel. It is available in signal pressures of 3 to 15 psi; 6 to 30 psi, and 9 to 45 psi. Write to: Fulton Sylphon Div., Robertshaw-Fulton Controls Co., Box 400, Knoxville 1, Tenn.

Pumps Now Saran Lined

Availability of saran lined centrifugal pumps to provide completely corrosion resistant piping systems has been announced by The Dow Chemical Co.

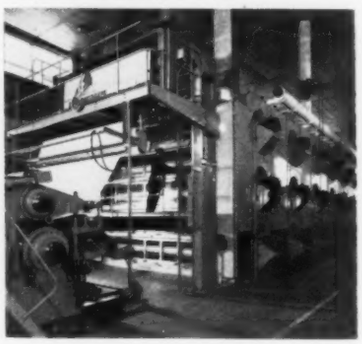
The new pumps, introduced after nearly four years of extensive field testing and development, permit handling a broad range of corrosive liquids. They follow wide acceptance of saran lined pipe, valves and fittings. Two sizes available include 1½ x 1 in. and 3 x 2 in. pumps, lined completely with saran and equipped with mechanical rotary type seals. These special seals are designed to eliminate the high frictional heat failures and resultant leakage problems.

Distributors are Saran Lined Pipe Co., 2415 Burdette Ave., Ferndale 20, Mich. More data is available from the distributor or Plastics Sales, Dow Chemical Co., Midland, Mich.

New Line of Chain Saws

McCullough Motors Corp. announces a new 1957 line of seven chain saws. Fred Breer, sales vice president, Los Angeles, says: "McCulloch offers the logger a complete selection of size, weight, power and price and choice of gear-driven or direct-drive models." The new line includes saws for every logging need, ranging from the lightweight, low-priced Model 35 to the Model 99, most powerful two-man saw on the market. Leading the line are the Model D-44 direct-drive saw, first introduced last fall, and the all-new Model 55 (shown in picture), a 24-lb., gear-driven model that features two adjustable blade positions: one for perfect balance while bucking, the other for low-stump cutting while felling."

Improved Pulp Dryer



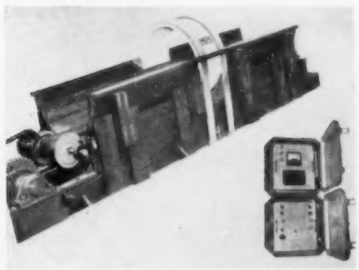
An improvement in the hot air drying process for pulp has been reported by Arne Hallencreutz, president, American SF Products, Inc. Big difference is that in the Type L Flakt Dryer the pulp web is carried and driven forward by the drying air. Other features: Higher speed (up to 500 fpm on pulp); higher capacity due to absence of mechanical conveyors; reduced size (takes up about 60% of conventional space); simplified operations (no conveyors to grease and maintain); no conveyor changing with consequent stoppages; automatic threading.

First commercial application is at Oskarstroms Sulfite Mills AB, Oskarstrom, Sweden. With overall dimensions of 55 ft. by 20 ft. by 18 ft. it dries 110 tons of bleached sulfite pulp a day. Three similar units are on order for late 1957 delivery. For further information contact American SF Products, 420 Lexington Ave., New York 17, N.Y.

Insert Flanges without Welding

It is now possible to tie in new equipment and break into existing lines and headers without welding, says Horace T. Potts Co. Easy to perform expanding of pipe or Speedline stainless steel fittings into Speedline insert flanges minimizes time out of production for pipelines and gives strong leak-proof joints, says Potts. Press fit between insert and flange assures that pipe or fitting can be expanded into the ferrule permanently and further facilitates usage in that only one piece has to be handled. Potts address: Erie Ave. & D St., Philadelphia 34, Pa.

Prevents Knife and Saw Damage



Metal-Matic metal detector, developed by Soderhamn Machine Mfg. Co., Talladega, Ala., causes a horn or bell to sound when foreign metal passes through a conveyor. A dye sprayer marks the general area on the log containing the metal. An accessory to stop the conveyor can be supplied. The unit can operate when partially submerged in the log pond. Sensitivity is adjustable.

Fast Trouble-Free Installation

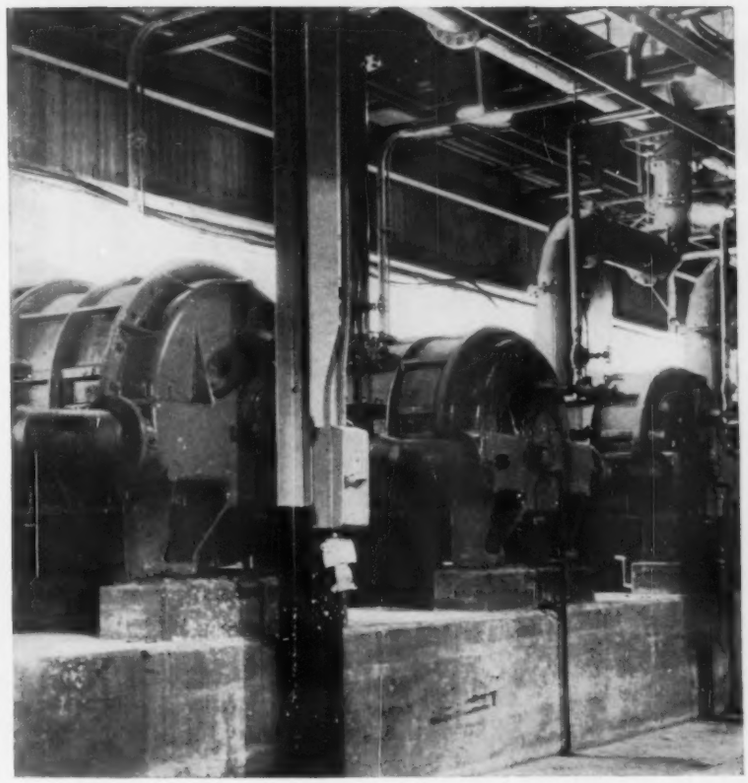
This new packaged feedwater heater unit, including boiler feed pumps and elevated heater mounted on a single base and ready to hook up, is offered by Stickle Steam Specialties Co., 2215 Valley Ave., Indianapolis 18, Ind.

Installation requires no engineering and hookup consists only of connecting three lines—feedwater inlet, steam inlet and outlet for feedwater to the boiler. It is designed to provide completely automatic boiler feedwater control, supplying boilers with preheated, non-corrosive feedwater as required. Described in new Stickle bulletin 117-A.

Corrosion Resisting Steels

Two corrosion-resistant stainless steels, Carpenter Alloys B and C, are available in full finished mill lengths up to 20 ft.-6 in. from Alloy Tube Div., Carpenter Steel Co., Union, N.J. Alloy B is a nickel-molybdenum-iron alloy and Alloy C is a nickel-molybdenum-chromium-iron alloy. Ask for Bulletin TD 117.

What, actually, do Vacuum Pumps on paper machines handle?



Paper mill engineers know that it is actually a mixture of air and water vapor, but the custom of rating vacuum pumps in terms of air capacity alone causes this important fact to be frequently overlooked.

The presence of this water vapor causes a considerable reduction of the effective air handling capacity of any vacuum pump except the Nash. In the Nash Vacuum Pump the bulk of this water vapor is effectively condensed, due to the Nash operating principle. The air handling capacity of the Nash is therefore not reduced.

That is one of the reasons why Nash Vacuum Pumps are standard in over a thousand leading Paper Mills.

NASH ENGINEERING COMPANY

443 WILSON ROAD, SO. NORWALK, CONN.

NOW...effective corrosion protection

for less than

1¢

per mil foot

with CARBOLINE'S new

CARBOMASTIC

Epoxy Tar Coatings

Higher solids content (83-91%)

Thickness 5-10 mils per coat

Greater flexibility in temperature changes

Coverage 1100-1250 mil ft./gal.

Less creep in fresh and salt water

Resistant to acids, alkalies, solvents, ammonia gas, water, brine, humidity, weathering

Colors black, brown, brick red, aluminum — or can be given Phenoline 305-2 topcoat for any desired color

Some of the many uses for Carbomastic Epoxy Tar Coatings:

Chemical Processing — tank linings and pipes carrying brine, process water, cooling water; also for maintenance and equipment.

Petroleum — salt water disposal lines and wells, crude oil storage tank bottom, pipe linings, crude oil flow lines, roof top exteriors.

Marine — offshore structures, tankers, barges, steel dock structures and equipment.

Pulp & Paper — structural steel, tank exteriors — all high-humidity and condensation conditions.

WRITE TODAY for technical data and corrosion charts.
Sample bars available — please describe problem.

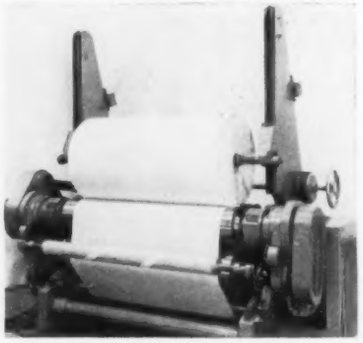
carboline COMPANY

349 Thornton Ave., St. Louis 19, Mo.

Manufacturers of PHENOLINE, POLYCLAD, RUSTBOND PRIMERS.

Specialists in Corrosion Resisting Coatings and Linings

Winder Makes Flying Transfer



Frank W. Egan & Co., Somerville, N.J. has a double drum winder which can make flying transfers at speeds up to 1,000 fpm. Double drum surface, says Egan, produces a hard wound roll free from telescoping. Slight variation in surface speed between two winding drums causes a tightening effect. It is thus preferable, claims Egan, to single drum surface winder.

Egan's winder eliminates changeover problem that has existed with double drum units. Transfer is made at full machine speeds between front winding drum and a third drum.

Introduces New Power Saw

Following extensive in-use tests, a new version of the Wright Power Saw has been introduced. This gasoline-powered, reciprocating blade action saw is called "Wright Rebel." The front assembly has been redesigned to operate at top efficiency even in sandy soil areas. The governor assembly has been redesigned. The saw weighs less than 25 lbs., has a 20-in. blade. It is manufactured by Wright Power Saw Div., Thomas Industries, Inc., 410 South Third St., Louisville 2, Ky. It sells for $189.50.

Down Time Eliminated

A three-arm rotatable continuous unwind reel has been developed by Dilts Division of The Black-Clawson Co. Downtime for roll changing is eliminated as splices are made on the fly, assisted by an air-operated rubber-covered pressure roll. Unit is designed specifically for operation with printing presses, etc. where shock caused by roll changes would result in waste such as offregister web.

Pneumatic Transmitters

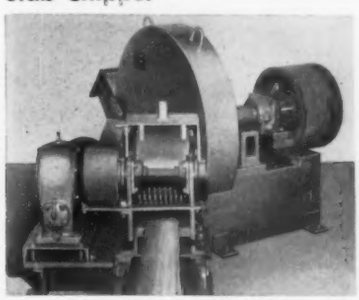
Pressure and differential pressure transmitters utilizing a "null-balance-vector" principle have been added to Republic Flow Meters Co. line of power and process instruments. The new design principle is said to permit greater compactness, reduce weight, and permit stepless changing of each instrument's range with a simple screw-driver adjustment. The latter is accomplished by changing the angle at which imput forces are applied to the linkage, thereby altering the component of such forces that must be balanced. Standard models of both instruments operate on 20 psi air and produce output signals from 3 to 15 psi, normally using about 0.2 scfm of air.

For more complete description, write for pressure transmitter Folio No. 56-12 and/or differential pressure transmitter Folio No. 56-13A to: Republic Flow Meters Co., 2240 Diversey Parkway, Chicago 47.

Steel Bins for Rolls

Open-end steel bins which can be stacked to provide a portable storage section for paper rolls are now available from the pressed steel division of Republic Steel. The U-shaped bins are handled by fork lift truck and can be tiered; are accessible from either end for loading or unloading.

Slab Chipper



Carthage Machine Co. is now producing a 39-in. slab chipper designed to produce high quality chips from slabs, edgings and small rounds, soft or hardwood. Features: Power feed synchronized with cutting speed to produce uniform, clean-cut chips which are exceptionally free from bruising; horizontal feed spout simplifies handling of long slabs, permits automated chipping when fed by same conveyor used to take slabs from Carthage slab barker; capacity, 3 to 5 cords per hour; heavy feed fingers at the disc hold down and align short ends; safety bar permits entrance of oversize material; controlled-torque friction-type coupling prevents damage from accidental jamming of the spout by allowing feed mechanism to stop.

...for straight right-angle cuts every time...the new

RIDGID

Wide-Roll Pipe Cutter

fast true pipe cuts on your power drive

Rolls are twice the usual width, double the bearing surface on pipe—sure straight start of cut . . . by hand or power drive—extra fast and easy. Pays you to see it before you buy your next cutter—at your Supply House.

No. 201, ⅛" to 1¼"
No. 202, ¼" to 2"

The Ridge Tool Company, Elyria, Ohio, U.S.A.

RIDGID

Work-Saver Pipe Tools

LITERATURE

Help for Pulp, Paper Makers

A third edition of the volume "Modern Pulp and Paper Making," edited by John B. Calkin, president of Calkin & Bayley, Inc., industrial consultants, and published by Reinhold Publishing Corp., is now available. Originally written to "help young men in the paper industry," in the words of George S. Witham, editor of the first two editions, the book has been entirely rewritten by experienced members of the industry to include up-to-date information on equipment, methods, economics and general mill design. With 38 years experience in papermaking, Mr. Calkin's clear and intelligible explanations of terms and processes used in the industry, as well as more advanced technical information, make this book valuable to beginners and veterans. Copies at $10.00 each may be obtained from PULP & PAPER's Book Shelf, 500 Howard St., San Francisco 5, Calif.

For Would-Be Railroaders

The Baltimore & Ohio Railroad has put out a handsome Directory of Coal Mines and Coke Ovens located on or accessible to the B&O. Containing excellent maps and photographs as well as lists of mines, coke ovens, by-product coke oven plants, coal and coke operators, coal sales agents and descriptions of principal coal seams, it is a pleasing and useful book. Write to George C. Bauer, Coal Traffic Mgr., Baltimore and Ohio Railroad Co. Traffic Dept., Baltimore 1, Md.

New Data Book on Drives

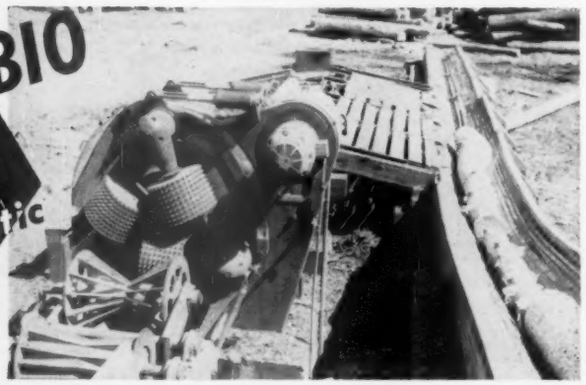
A completely new 112-page Engineering Data Book for selection and design of Poly-V Belt Drives has been announced by Manhattan Rubber Division, Raybestos-Manhattan, Inc., Passaic, N.J. Write for Data Book #10.

Generously illustrated, the book contains many useful charts, tables and diagrams along with complete specifications for all drive sizes. The selection of proper Poly-V belts and sheaves for drives of any speed or horsepower rating is made possible, without calculation, by means of the complete, easy-to-use standard drive tables.

On Speed Reducers

A Falk bulletin gives information on concentric shaft and right angle speed reducers for applications up to 140 hp (up to 72,000 lb.-in. output torque). Horsepower and torque ratings, dimensions, overhung load and thrust capacities, and application pictures are given. For Bulletin 1105, write: The Falk Corp., Dept. 255, 3001 West Canal Street, Milwaukee 1, Wis.

No Job's too Tough for Our CAMBIO Fully Automatic Barker



Shown here is our revolutionary Cambio Barker with new Dynalastic tools at the A. DeWeese Lumber Company, Philadelphia, Miss. Crooked and knotted logs like these present no problem to a Cambio Barker. It's built to bark any kind of logs—soft or hardwood—down to 4 feet in length at speeds up to 150 feet a minute. Built in the U.S.A., the Cambio is engineered to give you fast, efficient, low-cost barking.

Soderhamn Well-Known Slab Chipper and Chip Screen at Mississippi Mill Convert Waste to Profits

Two models — CS-90C or CS-35. New horizontal rotating types with double sawdust elimination; separate outlets for chips, sawdust and splinters.

Many mills are finding our chippers and chip screen big profit makers.

Call on us for anything you need in wood waste utilization equipment. Our complete line includes Cambio and Soderhamn D-3 barkers, slab chippers, chip screens, 26" Dixie gang saws, "Metal-Matic" metal detectors and many other types of woodworking machinery. Direct factory service and engineering at our Talladega plant Write for complete information.

SODERHAMN MACHINE MANUFACTURING CO.
SODERHAMN, SWEDEN SINCE 1864 TALLADEGA, ALABAMA

West Coast Sales Office: Room 409 Pittock Building, Portland, Oregon
Canadian Representatives: East Coast—Forano Limited, Montreal, Canada

PAPER CHEMIST

To Contribute New Thought
To Challenging Problems

Position entails development work on products for both wet end and surface treatments on all types of paper and paperboard. Laboratory work is to be supplemented by mill trials. Experienced paper chemist or man with formulation experience on specialty products for the paper industry desirable.

A promising career opportunity is offered in our established industrial concern. In joining our Company you become part of a team that is geared to the future—whose markets are as basic as are the industries it serves—yet we are small enough to quickly reward individual initiative and ability.

Salary open. Liberal employee benefits. New York area location. Write in detail outlining experience to Box PP1380, 125 W. 41 St., NYC, N.Y.

PICTURES OF PEOPLE IN THE NEWS

Small Heads Sprout Sales

Sprout-Waldron is rapidly expanding its sales force with the pulp and paper industry as its prime target. Harold J. Alsted, vice president i/c sales announces appointment of THAXTER "THAX" W. SMALL (left) with headquarters at Valdosta, Ga., as sales manager of Sprout-Waldron's pulp and paper mill division. Mr. Small, with Sprout nine years, has covered the Canadian Maritimes and eastern seaboard from Maine to Florida (excluding N.Y., N.J., Pa. and Del.). He majored in pulp and paper at U. of Maine, worked for Celotex Corp; U.S. Gypsum; Southland Paper Mills; American Cyanamid; Hollingworth & Whitney and West Dudley Paper Co.

Australian-born (Melbourne) KEITH V. THOMAS (center) has been named technical director of the pulp and paper division. This graduate of Gordon Institute of Technology (Seelong, Australia), came to Sprout from Price Bros. Paper Division, Kenogami, Canada, where he was division engineer. He spent two years in Europe visiting mills for Australian Paper Mfrs.

WILLIAM BENNETT (right) has joined Sprout as sales engineer for North Carolina, Virginia and Eastern Tennessee. He's an m.e. grad of U. of Virginia, has been with P. H. Glatfelter Co., Halifax Paper Co., Smith Paper Div. of Peter J. Schweitzer, Inc. He has just come from CICSSA in Montevideo, Uruguay where he was plant manager. He will base in Raleigh.

Ed Gillan Becomes Consultant, Bob Rusch is a Manager

EDWARD P. GILLAN (left), a pioneer in use of starches in the paper industry, retires as technical mgr. of corn products div. under Anheuser-Busch, Inc.'s new retirement policy. He is now technical consultant in starches and starch derivatives, manufacture and industrial applications. His address is Franks Rd., Rt. 2, House Springs, Mo.

ROBERT D. RUSCH (right), is new resident manager of Chase Bag Co. paper mill at Chagrin Falls, O. He heads operations making 100 tons a day of coated, printing and plain sack, creping and specialty kraft papers, tag stock, etc. Mr. Rusch was gen. supt. of the paper mill at Mosinee Paper Mills, Mosinee, Wis., and before that tech. supt. and asst. gen. supt. at International's No. Tonawanda, N.Y., mill. He was born at Neenah, Wis., and he and his wife, Mary, graduated from Lawrence College. He earned a b.s. at Institute of Paper Chemistry in 1934.

New Posts in Chain Belt

Chain Belt Co. has created three new regional managers for Eastern, Midwest-Southern and Pacific Northwest territories, to better service expanding sales volume in industrial markets.

New Eastern Regional Manager is J. B. ROBERTS (left), headquarters at East Orange, N.J., responsible for the Baltimore, East Orange, New York, Philadelphia, Springfield and Boston district offices. He has been with Chain Belt since 1921. WILLIAM SIVYER (middle) is new Midwest and Southern Regional Manager, headquarters, Milwaukee, responsible for Atlanta, Birmingham, Buffalo, Charlotte, Cincinnati, Denver, Jacksonville, Kansas City, Minneapolis, St. Louis and Toronto district offices. He joined Chain Belt in 1945.

H. F. BERGIS (right) will be Northwestern Regional Manager, headquarters Portland, Ore. He will be responsible for Portland, San Francisco and Seattle district. He has been with Chain Belt since 1923.

Newly-appointed district sales managers: J. S. Moore, New York; Harold M. Weil, Philadelphia; D. P. Murrill, Atlanta; W. E. Church, Portland, Ore.; F. R. Traylor, Charlotte, N.C.; and C. D. Bergen, East Orange, N.J.

New Zellerbach Head

A PULP & PAPER editor snapped this picture of KING WILKIN (left), new president of Zellerbach Paper Co., just before his promotion. He had just presented a 45-year service pin to H. E. BURDON (right), veteran Camas, Wash., division office mgr. Mr. Wilkin moved up from exec. v.p. of the paper company to succeed HAROLD L. ZELLERBACH, now chairman of the board and acting chairman of CZ Corp.

New President of Albany Felt

JOHN C. STANDISH has been elected president of Albany Felt Co., Albany, N.Y., filling vacancy created by death of Lewis R. Parker. Mr. Standish, veteran of 45 years in felt making field, is recognized as one of world's leading authorities on paper machine felts. He joined the Albany firm in 1921 as asst. supt. In 1954, he became exec. v.p. Everett C. Reed and Z. J. Chagnon have been promoted to vice presidents.

Appointments in Sales

RALPH N. HOH (left) is western sales mgr. of a new section, industrial chemicals, for American Potash & Chemical Corp., William M. Clines, western gen. sales mgr. reports

WILLIAM J. LOUGH (right) is new sales representative for East Texas Pulp and Paper Co., announces R. M. BUCKLEY, pres. Mr. Lough will be at Eastern sales office in New York City under G. A. ROSCHEK, Eastern sales mgr.

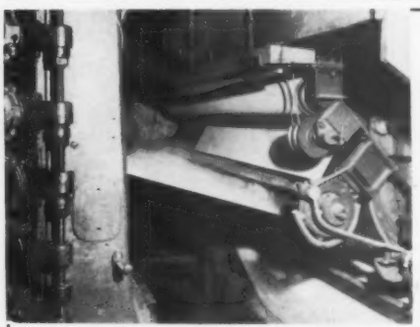
The DRAPER Felt
DRAPER BROTHERS COMPANY
CANTON, MASS.

STOP TELESCOPING ROLLS MUSHROOMING CORES

Use Air Operated HORTON Clutches and Brakes to control the sheet tension on your winders (center or surface) and back stands. Take the guess work out of tensioning and let HORTON equipment give you uniform tight rolls all the time. Choose the Clutch and Brake that have proven themselves on sheet tensioning.

VARIABLE SPEED CLUTCH PULLEYS
GOVERNOR CONTROLLED BRAKES

Horton Mfg. Co., Inc. MINNEAPOLIS 14, MINN.



Improve Paper Quality
with
DUPASQUIER DRIPLESS STEAM SHOWER PIPE

- WET END—breaks up bubbles, disperses foam
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- SAFELY USED anywhere dripless steam desired

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Write for Illustrated Folder

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Bearing Sales In New Store

The Tacoma, Wash., store of Bearing Sales & Service Inc., Northwest distributors of bearings and allied products, has moved "just around the corner" from 1718 Pacific Ave. to 1743 Jefferson Ave. A. E. Hoppe, Tacoma, manager, said the new location gives more space and better parking facilities for customers. Telephone service has been improved with additional incoming lines. New phone: FUlton 5363.

New Pigment Executives

Dr. Robert E. Brouillard is new assistant manager of the Pigment Div. and Emil A. Wich is named manager of Pigment Technical Dept. of Dyestuff and Chemical Div., General Aniline & Film Corp., announces J. Robert Bonnar, sales manager of the division.

Dr. Brouillard graduated from Bates College in 1938 and received his ph.d. from Clark Univ. in 1941. After several years in pigment research with American Cyanamid, he joined General Aniline in 1951.

Mr. Wich graduated from Brooklyn Polytech in 1935 and has been on General Aniline's technical staff since 1939.

"EXCELSIOR" FELTS
The Trademark of Felts of Superior Quality
for Every Grade of Pulp and Paper
KNOX WOOLEN COMPANY
CAMDEN, MAINE
Pacific Coast Agents
DAN E. CHARLES AGENCY, 1331 Third Avenue, Seattle, Wash.

PULP & PAPER CHEMICALS COLUMN

ANTARA PRODUCTS OFFERED—Antara Chemicals has a new brochure, "Blancol and Blancol N in Paper Processing." Blancol and Blancol N are employed in slime control, reduction in two-sidedness and improved retention of fillers or fines. Write Antara Chemicals, Sales Div. of General Aniline & Film Corp., 435 Hudson St., New York 14, N.Y.

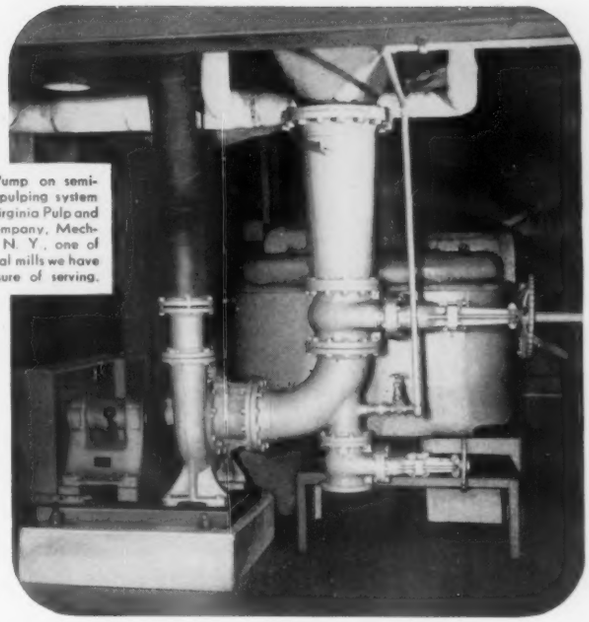
FOR PAPER COATINGS—A new liquid defoamer, Surfynol 104A, has shown excellent results in paper coatings of the starch, protein and resin adhesive types, advises manufacturer Air Reduction Chemical Co. It also is an effective defoamer in resin sizing of paper. It is a ditertiary acetylenic glycol, a class only recently recognized as low-foaming, nonionic surface active agents.

NEW SODIUM CHLORATE PLANT will be built by American Potash & Chemical Corp. at Aberdeen, Miss. Construction will start immediately with completion scheduled for mid-1958. Initial production will be 15,000 tons per year. The new plant will cost about $5,000,000.

IMPROVES REACTIVITY . . . Expanding acceptance of animal glue-based colloidal flocculants as coagulants and agglomerators for improved retention of papermaking materials, white, waste and raw-water treatment, has led to development by Peter Cooper Corps. of new Zetex and Zeten products for improved reactivity.

LIQUID ALUM PRODUCTION from a new plant at Plymouth, N.C., has been announced by American Cyanamid Co., to service paper mills in North Carolina-Virginia area.

"PLASTICIZERS" . . . This is the title of a 48-page bulletin being offered by Kessler Chemical Co., Inc., Philadelphia, Pa. Properties and specifications of 15 plasticizers are listed, including methoxyethyl, butoxyethyl, butyl and octyl esters, phthalates, adipates, stearates, oleates and laurates. Performance data with polyvinyl chloride are presented along with recommendations for use with cellulose resins, polystyrene and synthetic rubber. Extensive charts and graphs are included on solubility, resin compatibility and viscosity-temperature relationships.



Warren Pump on semi-chemical pulping system at West Virginia Pulp and Paper Company, Mechanicville, N. Y., one of their several mills we have the pleasure of serving.

A Company is Best Known by the Customers it Keeps . . .

and we are very pleased to have

West Virginia Pulp and Paper Company

among the valued customers which it has been our privilege to serve over a long period of years.

"Westvaco Quality" holds an enviable reputation in the fields which it serves. Likewise,

WARREN PUMPS

stake their reputation upon QUALITY and the ability to engineer and build pumping machinery to meet the individual and exacting requirements of the Pulp and Paper industry.

If you, too, are interested in low pumping costs and dependable service over the years, it will pay you to specify:

PP-36

Send for
FREE BULLETINS

WARREN PUMPS

WARREN PUMPS, INC. WARREN MASSACHUSETTS

the pump they couldn't clog!

It was a hydropulper application, handling 500 GPM of 5% stock at 50′ TDH. Among the things that sometimes entered the line were rubber gloves, baling wire, and even a tablecloth! A 6″ Wemco torque flow Solids Pump passed them all and asked for more!

Write for more information on this amazing pump and its "can't-clog" *liquid impeller action.*

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TORQUE-FLOW
SOLIDS PUMP

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STEAM LEAKS SEALED!

Driers—Drums—Boilers—etc.
On the job anywhere
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By our Skilled Technicians

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No leak is too large.
No machine is too large or too small.
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Our expanding Technical Sales Service Department requires additional technically trained personnel. Experience in paper, corrugating or allied fields preferred. Requires handling problems relative to use of starch products in all industrial applications. Midwestern and Eastern locations. Excellent insurance and retirement programs.
Please send resume with details of education, experience and salary requirements to **Director, Technical Sales Service, Clinton Corn Processing Company, Clinton, Iowa.**

MECHANICAL ENGINEERS

Pulp Manufacturer expanding into paper production has excellent opportunities for young Mechanical Engineers. These men will do design, layout, and project work. Salary commensurate with qualifications.
Please send complete resume and submit photograph to: Personnel Office
Riegel Paper Corporation
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WANTED

Retired experienced sulfite operators to collaborate on a per diem plus expense basis in demonstration of a very effective digester additive. Interesting work and opportunity for earnings and contact in pulp industry. Write Box 291, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

POSITIONS OPEN - MEN WANTED

We can place—Superintendent Cylinder machine folding boxboard mill; asst. mill manager, Fourdrinier machine papers; supervisor or foreman for tissue converting dept.; and many others. If available, SEND US YOUR RESUME. It will be in strictest confidence.

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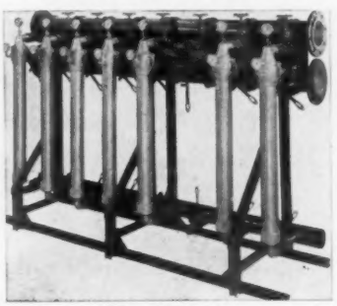
Now-CONTINUOUS SERVICE
from Filters and Strainers



Ronningen Model 208 Multiplex Filter with 1 unit removed from line for service—and *all* the others can continue to operate.

Headers: Stainless Steel with Van Stone Flanges

Filters: Bronze Castings, Bronze Couplings, Copper or Stainless Steel Body with Monel Metal or Stainless Steel Filter Element.

Valves: Bronze or Stainless Steel.

All are Quick Coupling—Non Short-Circuiting. Sealed both ends. Each unit can be back washed and blown down in 5 seconds.

Write for Bulletin 954U

STRAIN AGAIN WITH RONNINGEN
"Particles large or small, we filter them all"

RONNINGEN-PETTER CO.
Vicksburg, Michigan Phone Midway 8-5161

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. . . featuring convenience, comfort, quality! A cosmopolitan atmosphere in home-like setting.
In the center of all downtown activities. Newly decorated.
Ultra modern, comfortable guest rooms . . . excellent food at moderate prices in our modern coffee shop and cafeteria.

Radio and Television in room.
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800 ROOMS WITH BATH from $4.00
GARAGE and PARKING LOT
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No Charge for Children 12 and Under —
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DETROIT

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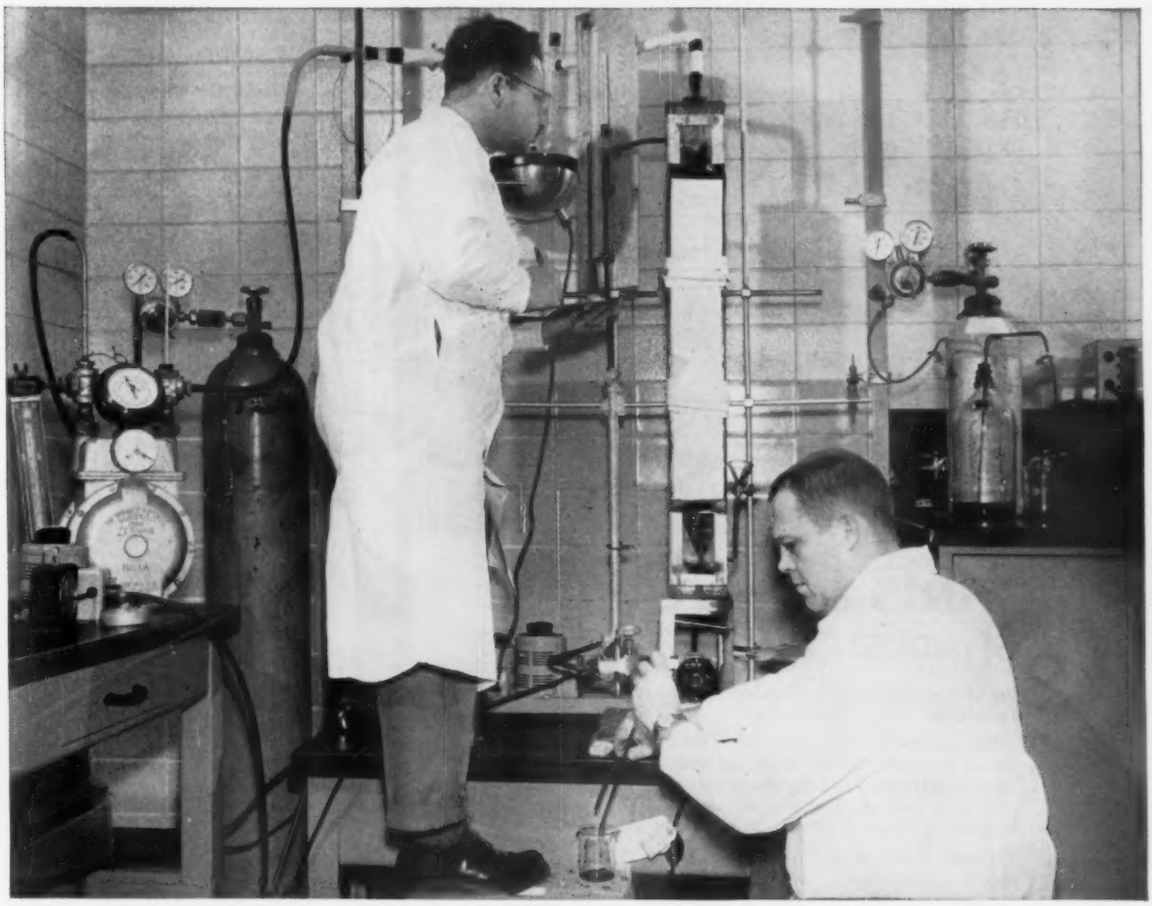
OPPORTUNITY IN RESEARCH?



Members of a Mead Research Team study the reaction kinetics of pulping liquors in a continuing search for better processes.

If you have a big thirst for knowledge, then The Mead Corporation has a big opportunity for you!

Research and development are important words at Mead. And we've just built a new million dollar research and development laboratory to prove it! Here, Mead scientists, using the most modern facilities and techniques, are rapidly pushing back the frontiers of knowledge in this vital industry. They're taking the lead in discovering new facts, creating new products for the future.

There are opportunities now in this advancing Mead research program for qualified chemists, physicists, chemical and mechanical engineers. The opportunities will be growing ones because (1) The Mead Corporation is growing even faster than the fast-growing paper industry as a whole, and (2) Our research interests are among the broadest in the industry and are constantly expanding. Previous experience in the paper industry would be helpful, but not a requisite. If you are interested, write for an interview or send a complete resume to R. L. Warner, The Mead Corporation, Chillicothe, Ohio. If you would first like more information about Mead, write Mr. Warner for a copy of our booklet describing Mead's opportunities for technical men.

OPPORTUNITIES IN RESEARCH AT THE MEAD CORPORATION EXIST NOW FOR:

Bachelors,
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and Ph. D's.

MEAD *papers*

MORRIS meets the CHALLENGE of INDUSTRY'S NEW FRONTIERS

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The new Morris Type RX Slurry Pump is specifically engineered to handle the viscosities, densities and special characteristics of the slurries and sludges developing from industry's ever-advancing products. It is engineering attuned to the future . . . designed to meet the demands of a towering tomorrow.

Rugged, Dependable, Trouble-Free; Operates With Minimum Attention . . . Cuts Maintenance Costs!

The new Morris RX is designed for performance perfection under all conditions, including heavy, coarse, fine slurries, dispersions and sludges. Operates at low speeds; quickly dismantled for inspection, avoiding lengthy lay-up time.

MORRIS MACHINE WORKS

Baldwinsville, N. Y. *Sales Offices in Principal Cities*

FREE SERVICE: Morris engineers will gladly recommend the custom-made pump best suited to your needs. Send necessary data today.

MORRIS TYPE RX SLURRY PUMP

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Whether you are an *employer* looking for the right man or an *applicant* looking for a better position, it will pay you to investigate our specialized placement service covering all phases of the Paper, Container and Packaging Industries.

- **PRODUCTION**
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A substantial number of exceptional men are now listed with us and are available almost immediately.

Whatever your requirements, contact us in complete confidence without involving any obligation.

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MECHANICAL ENGINEER

Graduate mechanical engineer with pulp-mill experience for midwest machinery concern. Good salary and opportunity for advancement. Reply Box 296, Pulp & Paper, 370 Lexington Ave., New York 17, New York

SUPERINTENDENT

Capable of taking complete charge of paper or board mill. Thorough experience in paper making, both technical & practical background. Lawrence Sochia, 476 Pawling Ave., Troy, New York

MILL MANAGER

$15,000 to $22,500

Plus Profit Sharing Bonus

We have been retained by the President of a very well known fine and medium fine specialties mill in New England to aid in the selection of a suitably qualified manufacturing manager to take full charge of all mill operations.

In the past, this mill has run standard fine grades on its two Fourdriniers, 88 and 102 inch, but is becoming increasingly active in the medium fine specialty field. For this reason, we need a versatile, flexible-minded papermaker, strong on planning and scheduling, who can and will efficiently manufacture a wide variety of specialty grades—a practical man, yet one compatible with modern management techniques.

This is an exceptional career opportunity for an ambitious production executive in the 40-55 age bracket. Right man can become V.P. of Manufacturing in near future.

Reply in absolute confidence to arrange early interview at Client's expense.

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Sulphate Pulp Producing Mill seeks 2 experienced

SALESMEN

(1 for middle west • 1 for northeast) to sell to paper converting mills on a direct basis

Brokers or agents will not be considered. Our own sales staff knows of this advt.

• *Write complete particulars in complete confidence to: Box 298* Pulp & Paper, 370 Lexington Ave. New York 17, N. Y.

MASTER MECHANIC AVAILABLE

Veteran pulp and paper mill mechanic seeking new position, capable of full charge of maintenance and supervision of construction; 30 years of best practical and technical experience in mills in East and Midwest. Box 297, Pulp & Paper, 370 Lexington Ave., New York, New York.

FOR SALE

1 Rewind Machine—Smutz—50 inch web x 48 inch diameter. Friction drum wind. Complete with variable drive motor and starter. Purchased '52, used only 6 months.

3 Lightnin Mixers—½ and ¾ H.P., variable speed, explosion proof. Excellent condition.

MUST SELL—CALL OR WRITE

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TOUR BOSS WANTED

Tour boss for one machine mill making test liner and corrugating medium grades. Ideal climate in California. Send complete personal data including experience, salary, etc., to Box 299, Pulp & Paper, 370 Lexington Avenue, New York 17, New York.

Third Term for Greenway

Norman F. Greenway was re-elected to an unprecedented third term as president of Folding Paper Box Assn. at the group's annual convention in Chicago, Apr. 1-4. Mr. Greenway is v.p. and gen. mgr., boxboard and folding carton division, Robert Gair Group, Continental Can Co., Inc.

Mr. Greenway predicted that the industry's sales would reach $1.5 billion by 1967 "as more retailers, switching their stores to self-selection, demand better packaging."

Parsons of Keyes Dies

Wallace E. Parsons, president of Keyes Fibre Co., died March 6 in Waterville, Me.

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How can we stop corrosion?

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"We Stopped Corrosion at our Plant!"

"Corrosion was *rampant* inside and out before Truscon diagnosed our troubles and prescribed TRUSCON CHEMFAST, corrosion and chemical resistant coating with Devran (epoxy resin)."

• If you have *any* corrosion at your plant, stop it *now* before replacement costs eat gaping holes in your profits! Send coupon above—take advantage of Truscon experience and knowhow.

Chemfast is a heavy-duty coating for protecting indoor and outdoor surfaces of wood, metal and masonry against moisture, acids and alkalis. It owes its toughness to Devran (epoxy resin).

MADE WITH DEVRAN— IT'S TOUGHER, MORE RESILIENT THAN A GOLF BALL.

CHOICE OF ATTRACTIVE, EYE-PLEASING COLORS

TRUSCON Laboratories
Industrial Maintenance Division of Devoe & Raynolds Co., Inc.

congratulations:

CROWN ZELLERBACH CORPORATION

NEW ANTIOCH MILL equipped with

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DIAMOND soot blowers

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280 SERIES METERING VALVES for

precise control

20 TURNS moves the stem only 3/8"

For precision flow control use this brass bar stock metering valve, equipped with an O-ring stem seal. The extra long, sharp, needle point stem (8° included angle) and fine spindle threads insure accurate control for pneumatic or hydraulic service, or precision laboratory work. In ⅛" and ¼" pipe sizes. Your choice of 1/16" or 3/16" orifices. Available for Panel Mounting, too.

For complete information send for Bulletin No. BSV 256.

See Us At Des. Eng. Show, N.Y. May 20-23

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- The Vollrath Company offers you complete facilities for stainless steel castings of all types—with fast delivery!
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Your inquiries are invited.

FOUNDRY DIVISION

THE VOLLRATH COMPANY

DEPT. P-4 SHEBOYGAN, WISCONSIN

bridges

A bridge is a roadway over an obstacle. The obstacle may be a ravine, a river, even another road. But it is basically a means of completing the job without trouble.

Ordinarily, all we see of the bridge is the roadway itself. If it's smooth and wide, we like it; if it's rough or narrow, we don't. But we never give a thought to the real strength of a bridge: the supporting columns.

Without the structure to support it, the smooth, broad roadway would be in the river—we'd have no bridge at all!

So it is with dyes. The color itself is fine, but only a means of completing the job. What good would the dye be if there were no thought given to developing the dye for the specific purpose; if there were no one to guide the hand of the user? Dyes alone are good, but they're much better when backed up by the proper support.

So to bridge the gap between pulpwood and colored papers, call on Sandoz. We supply quality products supported by objective research and expert application counsel.

SANDOZ, INC., 61-63 Van Dam Street, New York 13, N. Y. ALgonquin 5-1700.

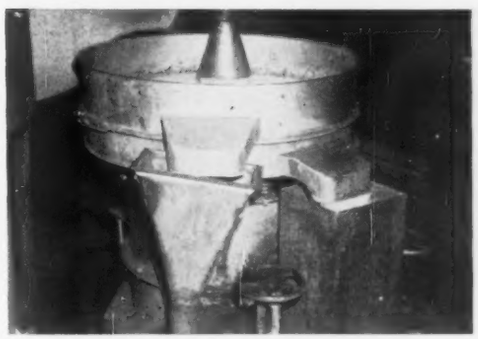
SANDOZ

SANDOZ

SCREENING NEWS

48" SWECO Separators Screen 1,800 Lb. of Slurry in 25 Minutes for Mead Paper

SWECO Vibrating Screen Separators are screening starch slurry at a unit rate of 1,800 lb. (485 gallons) every 25 minutes for the Mead Corporation of Chillicothe, Ohio and Kingsport, Tenn. The 48" diameter units have stepped up Mead's production of high-quality white paper by processing six to eight batches of slurry apiece in an eight-hour shift.



This 48" diameter SWECO *Separator screens up to eight batches of starch slurry a day to speed production of Mead Corporation's quality white paper.*

The SWECO Separators are equipped with 150-mesh (.0041" opening) stainless steel wire cloth. They have replaced processing screens of 60 mesh or less that slowed down effective removal of dirt from the starch.

Mead Corporation mill operators find the SWECO Separators easy to maintain and simple to clean. SWECO's unique design permits effective cleaning by flushing with steam and hot water.

A second 48" SWECO Separator was installed as part of an expansion program at the Chillicothe mill.

Screening Analysis and Recommendations Available

Your nearby SWECO District Engineer is available to help you with special screening problems. His "know-how" covers over 200 different materials . . . wet and dry, coarse and fine, heavy and light. He has an 18" SWECO Separator available, to demonstrate in your plant how this equipment can screen your material. No obligation, of course.

A complete data file on screening pulp and paper products plus a 22-page catalog are yours for the asking. Write for Bulletin S-111-19.

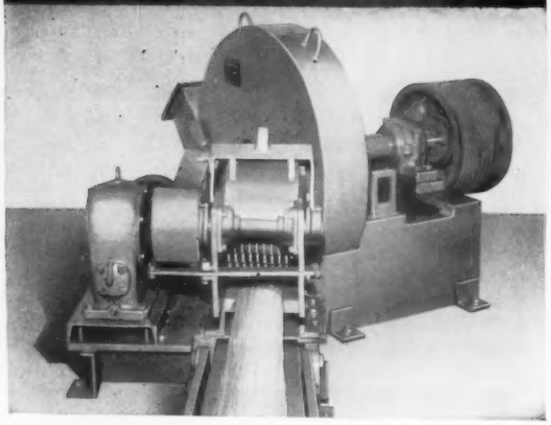
SWECO SEPARATORS

SOUTHWESTERN ENGINEERING COMPANY

4800 Santa Fe Ave., Los Angeles 58
LUdlow 3-6262—Cable: SWECOLA

Engineers and Constructors . . . Manufacturers

Uniform, Clean-Cut Chips from "Waste" Wood



Carthage Slab Chipper

You get high-quality chips from slabs, edgings and small rounds, hard or soft wood, with a Carthage 39" Slab Chipper. With power feed synchronized with the cutting speed, this new chipper produces uniform, clean-cut chips which are exceptionally free from bruising.

Horizontal feed spout simplifies handling of long slabs and permits "automated" chipping when fed by the discharge conveyor from the Carthage Slab Barker.

Heavy feed fingers at the disc hold down and align short ends. Safety bar prevents entrance of over size material. Feed stops automatically if spout is accidentally jammed. Capacity 3 to 5 cords per hour.

Write for Bulletin 39-1

•

Complete the Job with a Carthage Slab Barker and a Carthage-Dillon Chip Screen.

Ask Your Carthage Representative

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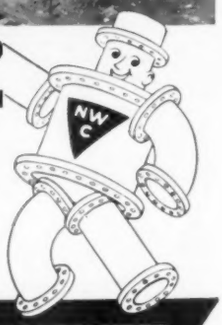

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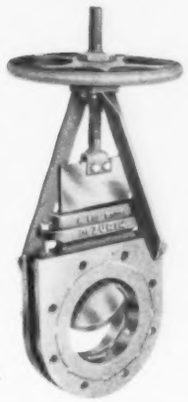

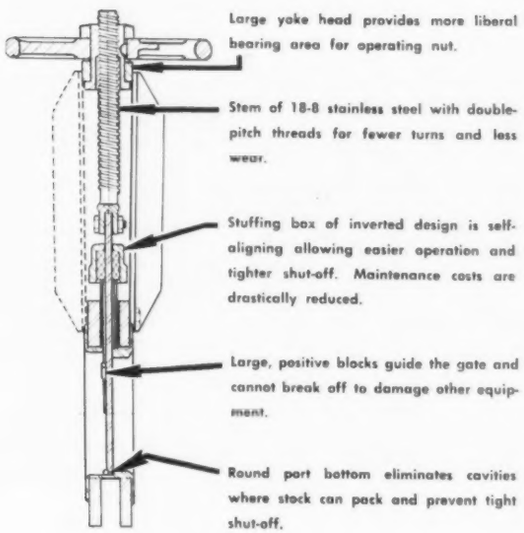

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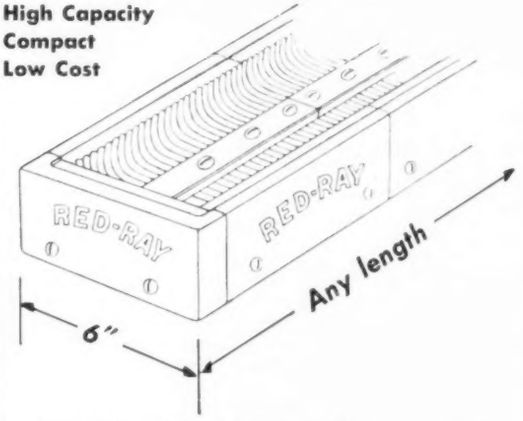

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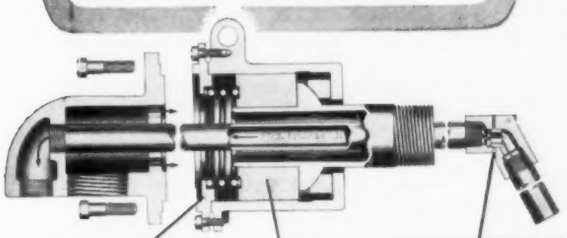

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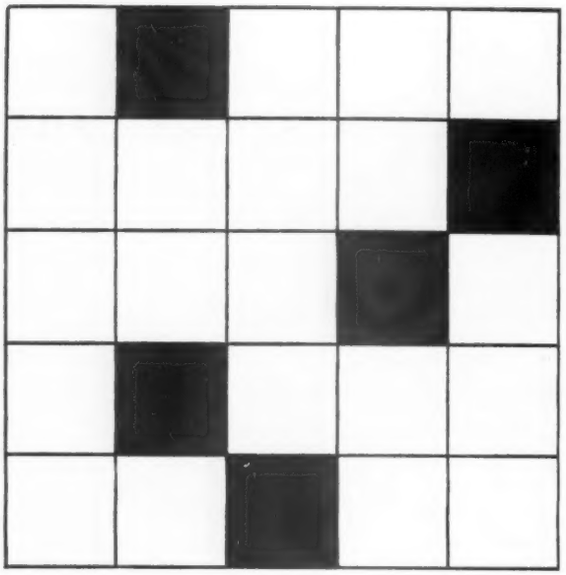

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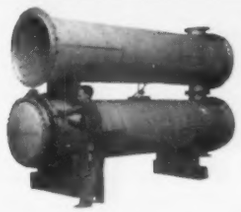

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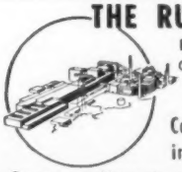

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The LAST WORD PULP & PAPER EDITORS' PAGE

Research Makes New Jobs

In the long run, it often has been proved, research, mechanization, improvements, etc., in pulp and paper manufacturing, in wood procurement, create more jobs instead of less—as well as better pay.

Industry's never-ending research and development leads to more and better products for all of us—and new jobs for many of us.

For example, a large company which makes aviation instruments, airplane parts, radios, washing machines, among other things, reports that 80% of all the jobs in its 39 plants are new ones which did not exist 30 years ago.

Taxes and Government Spending

"You have been hearing about tight money—and possibly you have been feeling the effects of it. As you know, the aim of the Federal Reserve Board is to curb inflationary tendencies. A target which everyone will approve.

"Earlier this year, the president urged business and labor to be cautious in matters of wage and price increases, to combat inflation.

"The fight against inflation would be more skillfully waged if (a) some of Washington's powers of regulation were used to control and reduce government spending and (b) if some of the caution urged upon business and labor were to be embraced with equal fervor by the government.

"But no! Close on the heels of this counsel for caution, the nation was shocked with the announcement of a $72 billion budget for the government's fiscal year starting July 1. That would be an all-time high in peacetime government spending. Unless the budget is drastically reduced, it means that an increase in tax revenues, of between ten and fourteen billion dollars within two or three years, will all evaporate in new spending—without producing any of the long-promised cut in tax rates, or any appreciable reduction in the staggering national debt.

"Even the presentation of such a budget indicates the need for a new fiscal viewpoint in Washington. The government should join with business and labor in holding the line against inflation. After all, government spending is the mother and father of inflation, or, to change the metaphor, the spark that ignites and the fuel that feeds the flames of inflation.

"The contentions of Washington budgeteers are (a) that the bulk of the budget is for defense and interest on debt, and (b) that there is great, almost irresistible pressure on Washington to spend money and legislate expensive programs in the interests of organized groups. And there are lots of these groups.

"As to the first point, we are not an authority on national defense, but we are convinced that the fabulous defense budget could be substantially reduced without endangering our national security. We are further convinced that the degree of our defensive strength is not necessarily in direct proportion to the extent of our spending.

"As to the second point, we agree that the pressure on Washington by organized self-interest groups should be curtailed. Meanwhile, we believe the government should develop the strength to resist pressure, and in place of unlimited spending there should be a program of gradual and substantial tax reduction, and a hefty reduction in the national debt, with a consequent easing of the interest load.

"As to both points, the amount spent in government expenses other than for defense and debt is still a lot of money. There is plenty of room for saving in these ordinary running expenses. We believe that such fiscal reforms would be a powerful stimulant to the entire economy, a stimulant that would produce plenty of tax revenue for a strong defense and the pursuit of appropriate welfare policies that are in the best interests of all people, here and abroad. The best way to bring about the needed reduction in federal expenditures is to write your congressman, protesting the size of the proposed budget and requesting economy in government."—Lawson Turcotte, President, Puget Sound Pulp & Timber Co.

A Proposal to Investigate Newspapers

President R. M. Fowler of the Newsprint Association of Canada has made an interesting proposal to a U.S. Senate committee investigating newsprint.

He suggests that it turn its attention to U.S. newspaper publishers to determine how hard up these consumers of newsprint are.

He pointed out that Canadian paper companies, as is the case of most U.S. companies too, are public companies whose financial reports are published periodically. No such information is available concerning the newspaper publishers who claim financial distress caused by newsprint prices.

Mr. Fowler contests this, and says the recent 4% newsprint price rise is less than ⅗ of 1% of the operating cost of most papers.

Perhaps the Senate committee might get some useful information close to home. We see that over in the House in Washington, a postoffice committee finds that newspapers are enjoying top prosperity and can easily absorb a 15% annual increase in postage rates for the next four years. Newspapers experienced a record year in 1956, their advertising revenue up 6%. And in postwar years, their revenue has increased 186%! Even with subscription rates and newsstand prices up 300% since the 1930's, the newspapers have reached new highs in circulation.

It looks like the p.o. committee has quite a bit of information the newsprint mills haven't been able to get.

It is quite obvious that newspaper publishers, and also most newsprint manufacturers, simply underestimated the market future a few years ago, invoking a scramble to meet demand. There are four more newsprint machines coming into production before long in the South, including two being changed over from other grades, and with other increases in newsprint supply elsewhere, it is our guess that before long the Senate investigating committee just isn't going to have anything to investigate.

Fashion Note

The girl who yearns to be able to throw her dresses away after a couple of wearings may soon have her wish. In the works are paper dresses, skirts, socks, jackets, uniforms, sports shirts and bathing suits. Experimental models are soft, wearable and nicely designed. Experts say some will be so inexpensive that it will be practical to discard them after a few wearings.

"Real leaders," says John Seaman Garns, "are ordinary people with extraordinary determination."

● Early 18th Century Chinese Plate with Yang-Yin symbol in the center. From the collection of Captain and Mrs. H. F. D. Davis, now owned by Mrs. H. N. Hill.

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